

# BUDGET 2020

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TALAVERA WATER DISTRICT



Republic of the Philippines

TALAVERA WATER DISTRICT

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Management  
System  
ISO 9001:2015

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ID 910958086



12 December 2019

The Board of Directors

Talavera Water District

## BUDGET 2020

On behalf of the Management of Talavera Water District, we are pleased to submit herewith the proposed budget of the District designed for next year. This was meticulously prepared by the designated Heads of all Departments, entitled Budget 2020, for your consideration and approval.

Thank you very much and we look forward for your authorization and confirmation.

Sincerely yours,



LEANDRO JUN C LACSAMANA

General Manager

## RATIONALE

Before the end of 2019, the district will be able to accomplish all plans and projects budgeted this year except for the well drilling in Baranggay La Torre. This was not started as scheduled due to delay in purchasing of lot which subsequently delayed the process as well. Since lot was already acquired only last November, drilling was scheduled to commence mid-December.

And though all capital outlays were attributed to TWD 2019 Gender and Development Plan and Budget, it was found not to be in accordance with Philippine Commission for Women (PCW)-NEDA-DBM Joint Circular 2012-01 regarding Annual Gender and Development Plan and Budget Guidelines as per COA Audit Observation Memo. Yet again, to conform with the said memo, all CAPEX pertaining to Water Distribution Lines and Water Production Projects were correspondingly attributed once more for Talavera Water District 2020 GAD Plan and Budget.

Upon closing of TWD Budget 2019, the District, which was ISO certified last November, can now boast of its accomplishments as being foremost in innovation and modernization.

In continuation, Budget 2020 was focused on the following areas of concern of Talavera Water District:

- Expansion and Relocation of Pipelines
  - Pipelaying along secondary roads are scheduled to be made at the start of 2020 and onwards to reach more houses which are not yet covered by Talavera Water District. These are the remaining municipal roads requested by residents and some other streets identified by engineering department as it is densely populated compared to others.
  - Relocation of lines affected by DPWH and other government development projects will also be made. The District need to reposition as these lines were under concrete shoulders or drainage canals along national highway. It will be more difficult and costly for District's maintenance works, repairs and installation if said lines will be left underneath and not transferred before their project completion.



- Parallel Lines on main roads will be laid to distribute pressure from San Miguel na Munti Station to Poblacion, San Pascual to Bagong Silang, and Cabubulaonan station to District's main distribution line. This will also get rid of boring works when tapping new service connections crossing roads thus more water services can be easily connected within a shorter period.
- **Augmentation of Supply**
  - Another source of supply is scheduled to be drilled next budget year, as per Geo-resistivity survey conducted by Local Water Utilities Administration (LWUA), upon purchase of lot preferably located at the poblacion area. This will be commissioned to supply alternately with the District's existing stations. Cost of subject lot and another two lots for future use, preferably from Brgy. Pula and possibly from Brgy. Poblacion, will be requested to be charged to TWD reserve.
  - And upon completion of well drilling in Barangay La Torre, pump station will be constructed similar to recently built pump station which will be set up with all the basics and needed equipment. This is expected to be activated within the year to sustain adequate supply during peak hours.
  - Rehabilitation of Pag-asa Well is also planned to be made to maximize its well capacity and eliminate sand pumping on a deeper pump setting. After rehabilitation, additional riser pipes will be installed to increase discharge.
- **Automation**
  - In addition to the existing six stations with SCADA (Supervisory Control and Data Acquisition), another four will be set up on four stations which will be coupled with Electro-Magnetic Flowmeters, Valve Actuators and one Station Viewer. Along with this is the installation of Built-in Battery Chargers for all Generators of SCADA operated pump stations to do away with periodic battery charging and to have an efficient starting and stopping of Gensets during transfer of power.



- Automation of door of Courtesy Lane was also scheduled to be installed and attributed to Gender and Development project of TWD. This is for easy access of Person with Disabilities, Senior Citizens and Pregnant Women as this will have sensors to open when they enter and leave the office.
- Water Quality
  - All stations will be provided with two Chemical Metering Pumps. One for chlorination and one for the additives which reduced or prevent water discoloration due to accumulation of minerals.
  - Purchase of additional Chlorine Residual Testing kits was incorporated on budget for regular testing of chlorine residuals inside pumping stations, households and pipelines, to monitor and conform with Philippine National Standard for Drinking Water (PNSDW) and ISO 9001-2015 as the District was already certified ISO compliant.
- Security
  - More Closed-Circuit Television (CCTV) will be strategically placed on pump stations along with NVRs (Network Video Recorders) and mass storages to increase memory for video recordings. This is in relation with CSC-DBM Joint Circular #1, s2017, dated 15 June 2017, wherein operator on Contract of Service will no longer be allowed after end of 2020. All station will therefore be unmanned and must be replaced with security cams instead to monitor its surroundings. Fencing of all these stations will then be constructed to secure the place. Existing fences will be built to a higher height and will be made of concrete blind wall as replacement of its present GI interlinks.
  - Additional Body Cameras will be purchased and will be issued to all maintenance men, flushing team and disconnectors who do not have their own unit yet. This will be worn by the assigned employees for the district to monitor their works and whereabouts. This is also for the security of the wearer as this will record their actions, travels, timeline and work environment.



- Information Technology

- Smart Phones with internet connections will be utilized by all employees who will be given access to TWD Geographic Information System (GIS). All data and information pertaining to District's production facilities and water supply system will be encoded and updated since GIS is already activated before end of 2019. Further, additions and revisions of maps as well as uploading of photos can be made real time to have a reliable system that will help the district in its maintenance, operation and engineering works.
- Additional Computers will also be purchased to replace old and obsolete computers.
- Read and Bill System. This will capture readings and field findings to compute and print bill on-site.

And as per LWUA Advisor's initial assessment, Talavera Water District already passed all Key Performance Indicators to qualify for recategorization. Being one of the requirements, all existing filled plantilla positions were included in the budget. It was based on next higher category and individually matched with the anticipated Salary Standardization Law 5. Request for Recategorization is expected to be approved before March if process be started by January next year.

Once again, all the above-stated projects, activities and plans of Budget 2020 were programmed by every department. Its entirety was aimed at Talavera Water District's mission to continuously provide excellent water service to public and concessionaires.



## ANALYSIS

### *Coverage Area*

The District presently covers all major roads of the fifty-three (53) barangays of the Municipality of Talavera. In addition to this is one (1) barangay in the Science City of Muñoz and two (2) more barangays in the Municipality of Sto Domingo. This has a total projected population of 157,090 individuals; figures were obtained from Talavera Municipal Planning and Development Office.

The number of households with water service connection within the service coverage area now totals to 10,396 as of November 2019. This excludes disconnected service connections before billing period. Adding the forecasted additional service connection of the remaining month, total connection is expected to reach 10,500 by end of 2019. Using the average ratio of 5 persons per household, about 52,500 of the said total population are now being serviced by Talavera Water District.

### *Water Transmission and Distribution Lines*

The transmission and distribution pipelines of the entire system covering all served barangays now totals to approximately two hundred twenty-three (223) kilometers. It consists of Polyethylene (PE) pipes, Polyvinyl Chloride (PVC) pipes Ductile Pipes and Steel Pipes.

### *Fire Hydrants and Blow-off Valves*

There are ten (10) fire hydrants strategically situated and two hundred seventeen (217) blow-off valves installed. Most of the fire hydrants are city type, which is suitable to all types of fire truck's hose, while four are standard type hydrants. Their primary function is to supply water for fire protection and regular flushing of the main transmission and distribution system.

### *Water Resources Facilities*

The District currently maintains one Elevated Steel Tank with 100 cubic meter capacity located at Pag-asa Station and one 700 cubic meter capacity Glass-Fused-to-Steel Tank situated at San Pascual Station.



In addition to this, Talavera Water District has already managing fifteen (15) stations which are scheduled to work alternately to supply a 24-hour water service. Its maintaining pump frequency is pegged to an average of 50Hz with the use of Variable Speed Drives to provide sufficiently.

All active stations have chlorinators for chlorine treatment of water it supplies. Five of these stations has Chemical Feeders installed as well on its discharge lines which serves as injection points for Iron Inhibitor, Mineral Scale Removal and Corrosion Protector Additives.

During power interruption and failures, all pumping stations has automatic transfer switches to automatically turn on Generator Sets. This shorten stoppage of water supply caused by power breakdowns or any other electrical failures.

Six stations can be controlled remotely. With this, reports is real time and can be accessed through computers, tablets or cellphones, anytime and anywhere as long as there is a local or internet connection.

Most of the stations has CCTVs which can be viewed to video display units on the central station and even on other connected devices. Video recordings are stored on the main recorder and to other stations with DVR and NVR. These pumping stations are listed below opposite their locations:

	Station	Location
1	Pag Station*	Brgy Pag-asa
2	Din Station	Brgy Dinarayat
3	SNi Station*	Brgy Santo Niño
4	SPa Station*	Brgy San Pascual
5	Ba1 Station	Brgy Bacal 1
6	Ba3 Station*	Brgy Bacal 3
7	BnB Station*	Brgy Bugtong na Buli
8	Mam Station	Brgy Mamandil
9	BHa Station	Brgy Basang Hamog





10	Cab Station*	Brgy Cabubulaonan
11	Val Station	Brgy Valle
12	SMM Station*	Brgy San Miguel na Munti
13	Esg Station*	Brgy Esguerra

\*stations already equipped with Electromagnetic flowmeters which accurately read and record data pertaining to water production.

### ***Conclusion***

With all the accomplishments that sustained the present self-sufficient state of the District, proposed projects for next year is again funded by Talavera Water District. All its programs were planned in concurrence with the anticipated needs and requirements of its maintenance and operation.



## SUMMARY

Budget 2020 was projected based on sales from eleven thousand eight hundred (11,800) water service connections that will be derived from service connections of the expected water system coverage area. The following additional expansion projects will be constructed and will add up to the said coverage area before the end of budget year:

Location	Length (m)	Location	Length(m)
P4, Sibul	660	P3, Pantoc Bulac	360
P1, Homestead 2	500	P5, Marcos	120
Z7, Matias	270	D2, Bantug	180
Z4, Pag-asa	270	P7, Poblacion Sur	210
P1, Sampaloc	210	P7, Sampaloc	540
P4-6, Dimasalang Norte	540	P6, San Pascual	300

Parallel lines are scheduled as well to resist pressure that will be brought about by possible simultaneous pumping of stations during peak hours. This will lessen boring works since both sides of the roads has its own transmission lines. It will also distribute pressure proportionately since all lines are interconnected.

Location	Length (km)
Sibul	0.60
Bantug Hacienda	1.26
Gulod	1.26
Sampaloc	0.60
Bagong Silang	0.60



Relocation of distribution mains along the national highway will continue to give way on the ongoing projects of DPWH and other Government Agencies. PVC pipes are scheduled to be removed, transferred or upgraded during relocation.

Location	Barangay	Length (km)
Highway	San Miguel na Munti	1.26
Highway	Pinagpanaan	0.60
Highway	Dinarayat	1.26

One more lot has been identified as new site for drilling. This will be situated in Barangays Pula or in Poblacion area which will further augment existing water supply. Activation of this station is scheduled to be utilized immediately after drilling and upon installation of its production & treatment facilities. It is expected to be ready before the end of 2020.

The District intends to buy two more lots for future use in order to avoid delays during purchase which usually cause deferment of projects. This will just be charged to TWD reserve and will be of use on next budget year.

Rehabilitation of Pag-asa Well is also planned to be made. A smaller diameter of PVC casings and screens will be placed after camera logging and cleaning were performed. The district also plans on increasing its current pump setting which will require acquisition of additional PVC Riser pipes, to increase discharge.

In addition to the existing six stations with SCADA (Supervisory Control and Data Acquisition), another four will be set up on the following four stations which will be coupled with Electro-Magnetic Flowmeters, Valve Actuators and one Station Viewer:

1. Mam Station
2. Din Station
3. Val Station
4. LTo Station



Along with this is the installation of Built-in Battery Chargers for Generators of all pump stations to do away with periodic battery charging and to have an efficient starting and stopping during transfer of power.

Purchase of additional Chemical Feeders for all stations and Testing kits were also incorporated on budget.

The usual acquisition of water meters for new service connections in addition to replacement of old, faulty and tampered meter is scheduled as well. This includes bigger sizes of meter intended for commercial, industrial and other establishments requiring such.

In addition to the installed closed-circuit television cameras, more cameras will be connected. This will be strategically mounted on the following stations as this is scheduled to be remotely operated by the end of 2020:

1. Val Station
2. Cab Station
3. SRi Station
4. LTo Station

Body Cameras and Smart Phones were allocated for use of employees assigned to the following commercial, maintenance and operation works:

1. Flushing
2. Disconnection
3. Operation, Maintenance and Repair
4. Meter Reading

And to cope with the growing number of concessionaires, Commercial Department will be provided with Read and Bill System. It is an application in a Rugged Handheld Data Terminals to capture reading and field findings as well as compute and print bill on-site. Uploading of readings directly to the system is possible as long as internet connection is available. With this, the District will save a lot on manpower expenses and efficiently bill concessionaires.



Finally, to complete the District's Capital Expenditure, the following are listed to be acquired:

- Production Tools and Maintenance/ Finance Equipment
- Building Improvements
- Generators and Chlorinator Houses
- Backfilling

All these plans and programs of the proposed Budget of Talavera Water District for year 2020 were prepared and submitted by all designated Heads of every department to continue with its mission to provide adequate and reliable supply of high quality of water and excellent service in an environmentally and economically responsible manner.



## *Amount Available for CAPEX*

Total Receipts is expected to reach P 88,542,839 which will be received from the following revenue account:

Income from Water Works P 73,595,793

This is the collected number of billings from all water service connections. Computations were based on ninety seven percent (97%) collection efficiency of the said billings including arrears from previous year.

Other Business Income P 14,186,866

Other Business Income is the result of collection from fees, charges and cost of materials of new and reconnected service connections plus earnings from Repair and Maintenance of Concessionaires' service lines. This was computed, based on Board Resolution 05-2017 dated 27 March 2017, regarding Modification of Board Resolution 13-200.

Liquidation of Petty Cash P 20,000

This is the allotted cash for petty cash disbursement to be refunded at the end of every budget year, as approved by Board Resolution 02-2006 dated 9 February 2006.

Other Receivables P 726,629

This is the balance collected on service connection fees, charges and materials not paid resulting from emergency repair or requested instalment payment of said repair and connection and other receivables from water sales.

Interest Income P 13,551

These are the interest income from all current, checking and special savings accounts registered under the name of Talavera Water District.

With an anticipated Cash Balance beginning of P 1,000,000, the Total Available Cash is probable to arrive at P 89,542,839.



Net Receipts Disbursement amounting to P 24,004,824 was obtained from Total Available Cash less the following disbursements before Capital Expenditures reaching the amount of P 65,538,015:

Salaries and Wages P 20,140,737

Only the 32 existing plantilla positions as approved by the Department of Budget and Management were included and funds for 57 Contract of Service of needed number of contract workers were allocated, in preparation for recategorization of the District. Computation of salaries of regular employees were based on Category B and matched to proposed Salary Standardization Law (SSL 5).

Operating and Maintenance Expenses P 35,995,822

The amount was anticipated at one hundred percent (100%) of Operating and Maintenance Expenses less the Salaries and Wages.

Transfer of Funds to TWD Reserve P 2,207,874

Board Resolution 14-2014 dated 9 December 2014; 3% of Total Gross Receipts from Water Sales was budgeted to be deposited on a High Yielding Account of TWD every month.

Transfer of Funds to Personnel Accounts P 2,086,178

An amount of P 50,000 plus monthly earned leave of all employees was budgeted to be deposited at TWD Special Savings Account as per Board Resolution 02-2014 dated 28 August 2013 plus Total Accumulated Compensated Absences of all employees.

Purchase of Supplies and Materials P 3,359,859

This is the cost of the following office supplies and materials:

- materials for new service connections
- maintenance of existing water distribution lines
- cost of chemicals
- office supplies and accountable forms



The amount was derived by obtaining the actual amount needed for supplies minus the cost of materials on hand.

Franchise Tax, Duties and Licenses

P 1,727,546

This is two percent of the collection from Water Sales which will be remitted to Bureau of Internal Revenues plus Withholding Tax from Interest Income of all accounts of TWD. Registration of all vehicles were also incorporated.

With an anticipated Cash Balance End estimated at P 50,000, the Total Amount Available for CAPEX is projected to arrive at P 23,954,824 which will be used for projects planned for 2020.





## Amount Available for CAPEX

<i>Income From Water Works/Collections</i>	P	73,595,793	
<i>Other Business Income</i>		14,186,866	
<i>Liquidation of Petty Cash Fund</i>		20,000	
<i>Other Receivables</i>		726,629	
<i>Interest Income</i>		13,551	
<b>Total Receipts</b>		<b>88,542,839</b>	
<i>Cash Balance Beg</i>		1,000,000	
<b>Total Available Cash</b>	P		<b>89,542,839</b>
<i>Salaries&amp;Wages</i>	P	20,140,737	
<i>Operating and Maintenance Expenses</i>		35,995,822	
<i>TOF to TWD Reserves</i>		2,207,874	
<i>TOF to Personnel Account</i>		2,086,178	
<i>Petty Cash Fund</i>		20,000	
<i>Purchase of Materials &amp; Supplies</i>		3,359,858	
<i>Franchise Tax, Taxes, Duties and Disbursement Before Capex</i>	P		65,538,015
<i>Net Receipt Disbursement</i>			24,004,824
<i>Anticipated Cash Balance End</i>			50,000
<b>Amount Available for CAPEX</b>	P		<b>23,954,824</b>

Prepared by:

Recommending Approval:

  
ROWENA N DELA CRUZ  
Financial Planning Specialist

  
LEANDRO JUN C LACSAMANA  
General Manager

As Per Approved Board Resolution No: 2020-001

Date: 14 JANUARY 2020



## *Income Statement*

Total Operating Revenues is expected to reach P 83,448,901, resulting from Generation, Transmission and Distribution Income of P 69,671,472 excluding previous arrears, Other Business Income, Interest Income, Fines and Penalties and Senior Citizen Discount. Total Operating Expenses is projected at P 71,507,327 from the following expenditures:

Personal Services P 29,212,739

This includes the Salaries and Wages, Other Personnel Benefits, Honoraria, Contributions to GSIS, PAG-IBIG and PhilHealth of entitled employees, enumerated hereunder:

Personnel Economic Relief Allowance (PERA) - DBM Budget Circular 2009-3 dated 18 August 2009 grants an amount of P2,000 per employee.

Representation Allowance – as prescribed by DBM National Budget Circular 548 dated 15 May 2013.

Transportation Allowance – ref: DBM NBC.

Clothing Allowance – P 6,000 per employee are allotted for uniforms as prescribed by Government Appropriations Act (GAA) and Budget Circular 2012-1 dated 23 February 2012.

Productivity Enhancement Incentive– P 5,000 per employee as prescribed by Executive Order 201 Section 6 dated 19 February 2016.

Overtime and Holiday Pay – payment for overtime and holiday pay of employees as scheduled by designated Heads and approved by Management.

Employer's Share – Contributions to GSIS, PAG-IBIG and PhilHealth based on every agencies' schedules.

Honoraria – per diem of Board of Directors based on category B, as approved by LWUA Memorandum Circular 005-12 effective April 2012 as provided in section 5 of Executive Order #24, Series 2011.

Cash Gift – P 5,000 each as prescribed by DBM.



Mid-year Bonus—equivalent to one-month basic salary to be given every May of every year as per Section 4 of EO 201 series of 2016.

Year-end Bonus – equivalent to one-month salary of employees. This is scheduled to be released every November of every year as per Joint Resolution #4 series of 2009.

Performance Based Bonus (PBB)—percentage of salary depending on ratings earned for two consecutive grading periods. This shall be subject to the achievements of departments and individual employees of their performance targets or commitment and compliance with good governance. Sec 5 of Executive Order 201 series 2016.

Other Operating Expenses P 30,485,013

These are projected expenditures of all Departments pertaining to the following expense account:

- Supplies
- Subscriptions
- Communications
- Utilities Expenses
- Travels and Trainings
- Insurance
- Taxes, Duties and Licenses
- Representation
- Awards and Rewards
- Indemnities and Other Claims
- Generation, Distribution and Transmission Expenses
- Legal and Professional Fees
- Membership Dues and Contributions to Organizations



Repair and Maintenance P 1,720,563

Repair and Maintenance for the following were provided:

- Office Buildings and its surroundings
- Furniture and Fixtures
- Water Resources Facilities
- Service Vehicles
- Machineries and Equipment
- Transmissions and Distribution System

Depreciation Expenses P 10,089,012

Annual depreciation of Property, Plant and Equipment (PPE) is computed by using the straight-line method as prescribed by Government Accounting System for Local Water Districts.

From the Total Operating Revenues and Total Operating Expenses obtained, Talavera Water District is expected to gain a Net Income of P 11,941,573 by the end of Budget Year.



## Income Statement

### Revenues

<i>Generation, Transmission and Distribution Income</i>	P	69,671,472	
<i>Other Business and Service Income</i>		13,548,728	
<i>Fines and Penalties</i>		215,150	
<i>Interest Income</i>		13,551	
<b>Total Operating Revenues</b>	P		<b>83,448,901</b>

### Expenses

<i>Personal Services</i>	P	29,212,739	
<i>Other Operating Expenses</i>		30,485,013	
<i>Repair &amp; Maintenance</i>		1,720,563	
<i>Depreciation Expense</i>		10,089,012	
<b>Total Operating Expenses</b>			<b>71,507,327</b>
<i>Net Income Before Interest Charge</i>			<b>11,941,573</b>
<i>Interest Expense</i>			
<b>Net Income</b>	P		<b>11,941,573</b>

Prepared by:

Recommending Approval:

  
ROWENA N DELA CRUZ  
Financial Planning Specialist

  
LEANDRO JUN C LACSAMANA  
General Manager

As Per Approved Board Resolution No: 2020-001

Date: 14 JANUARY 2020

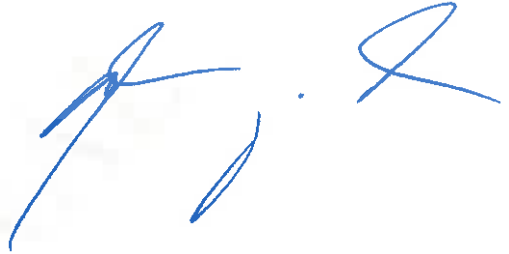


## CONCLUSION

By the end of budget year, Talavera Water District will be serving eleven thousand eight hundred (11,800) households of the municipality. It will reach a total length of around two hundred thirty-four (234 Km) of water distribution and transmission mains of coverage.

## RECOMMENDATION

Management recommends with high priority and urgency the consideration, approval and confirmation of Talavera Water District Budget for 2020.



## BOARD ACTION

Approved as per Board Resolution # 2020-001

Date: 14 JANUARY 2020



KEVIN ROY P. CORPUZ  
Secretary



DIVINIA S LACANILAO  
Board Member



CARLITO M. DELA CRUZ Jr  
Board Member



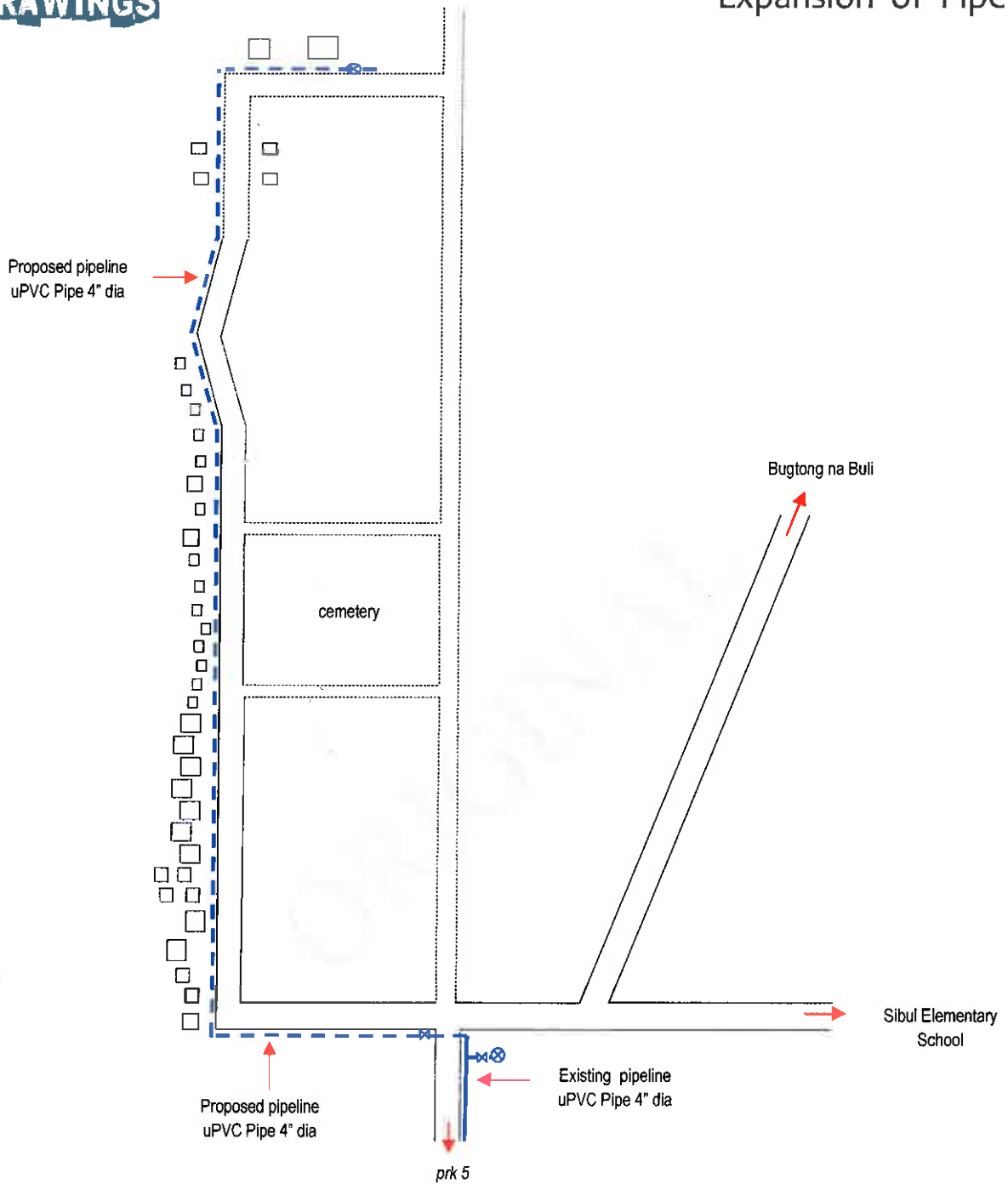
JAIME CARLO C. SAN PEDRO  
Vice Chairperson

DANIEL M. FERRER  
Chairperson



DRAWINGS

Expansion of Pipeline



Barangay Sibul

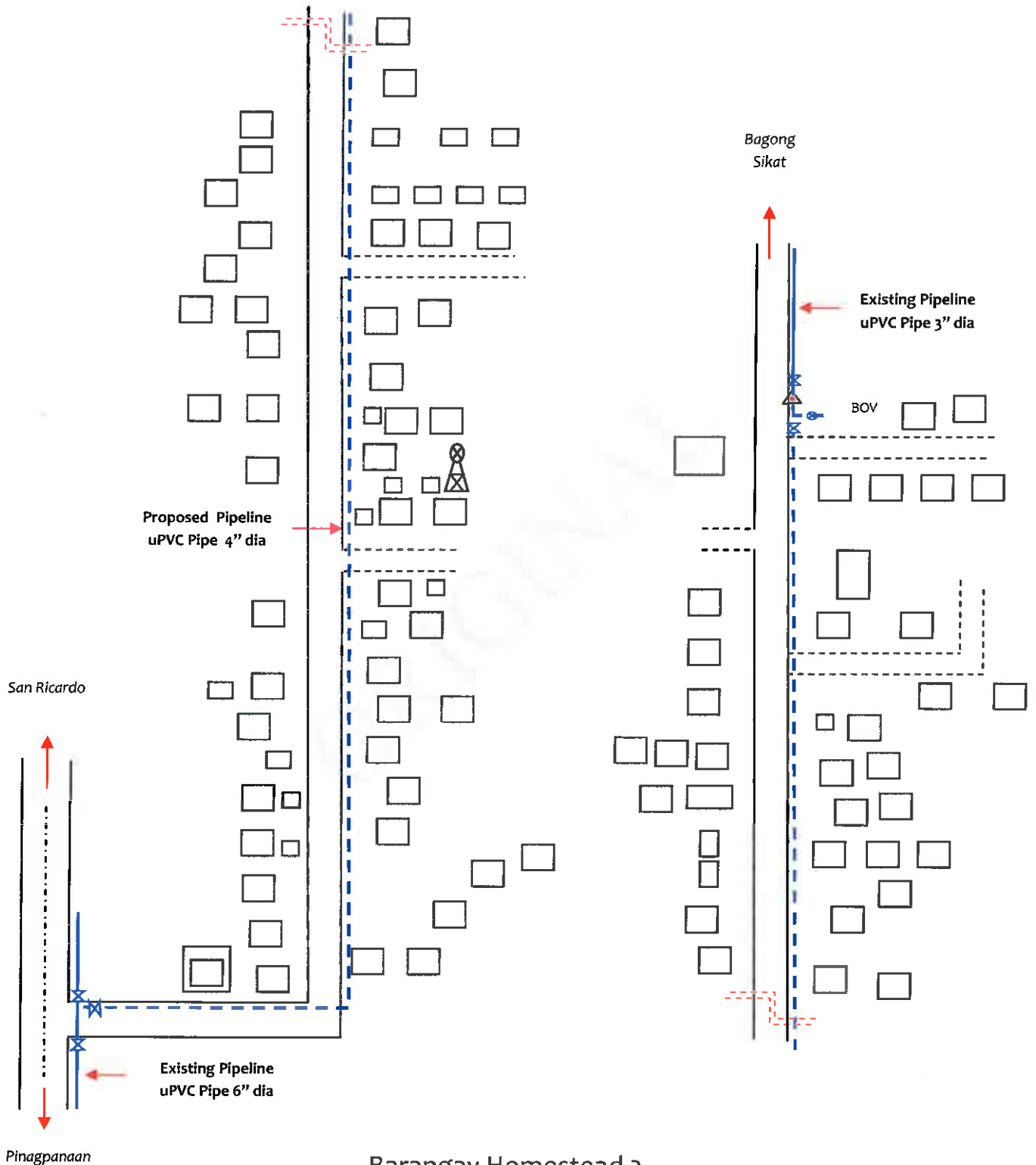
Purok 4

L = 660 meters

Prepared by:

RENE A VILLEGAS  
SWUDO

Expansion of Pipeline



Barangay Homestead 2

Prk 1

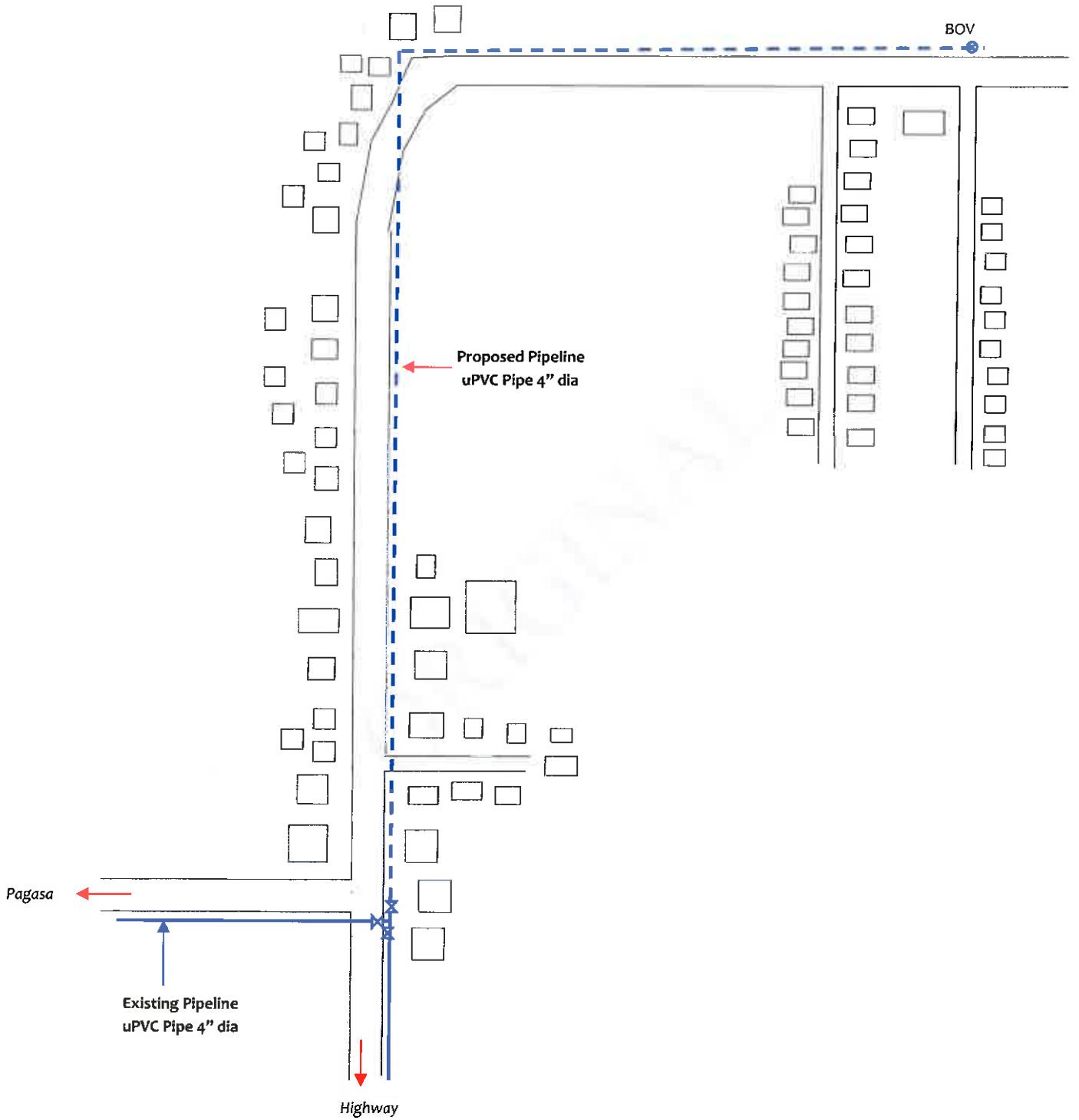
L = 500 meters

Prepared by:

RENE A VILLEGAS  
SWUDO



Expansion of Pipeline



Barangay Matias

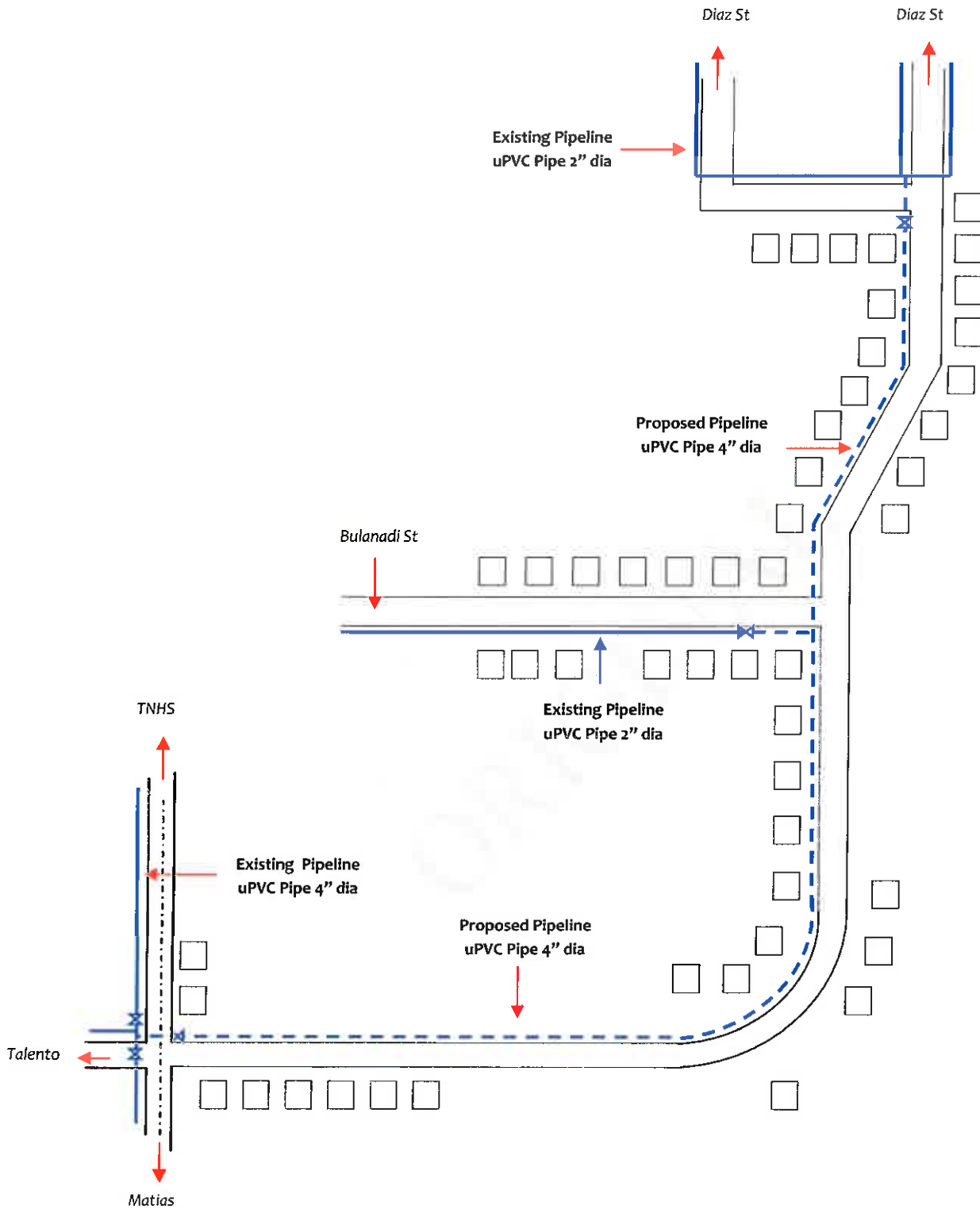
Zone 7

L = 270 meters

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Expansion of Pipeline



Barangay Pagasa

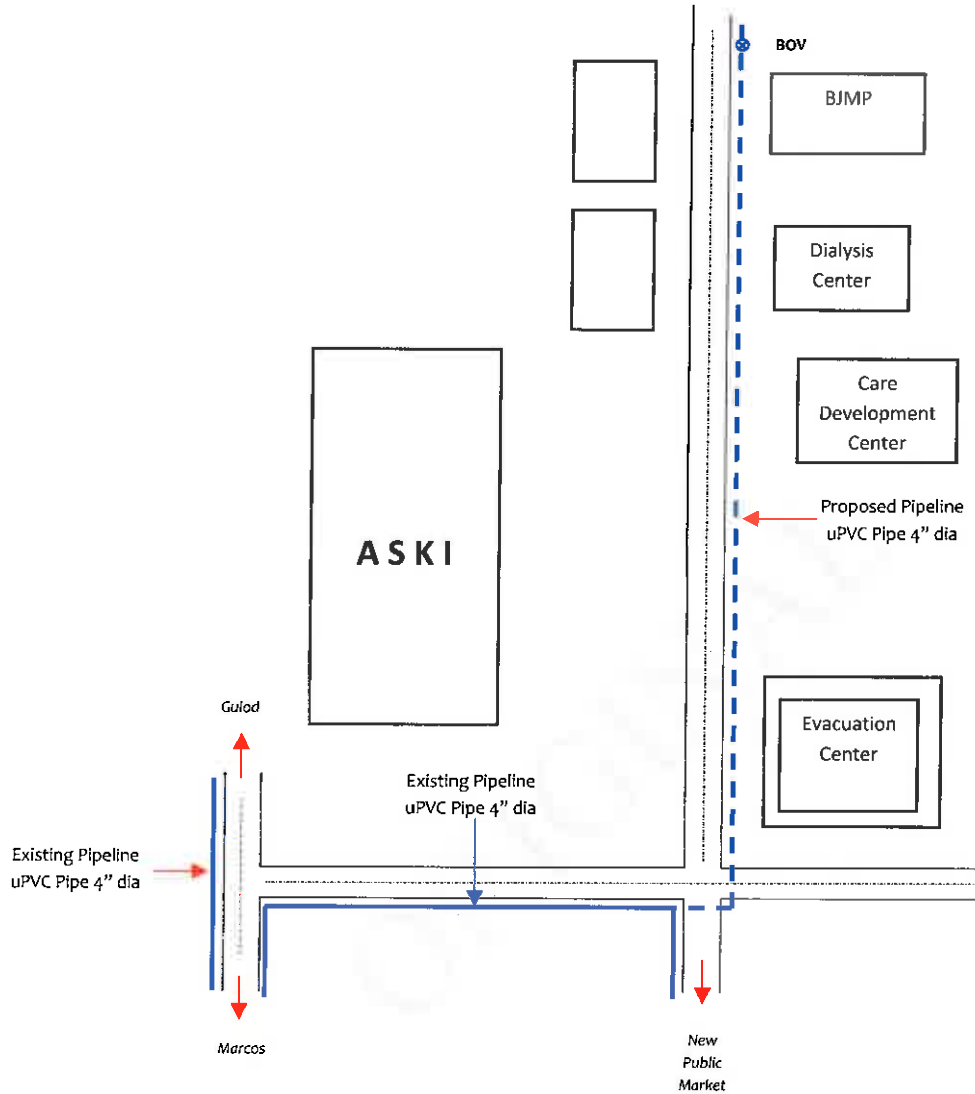
Zone 4

L = 270 meters

Prepared by:

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SWUDO

Expansion of Pipeline



Barangay Sampaloc

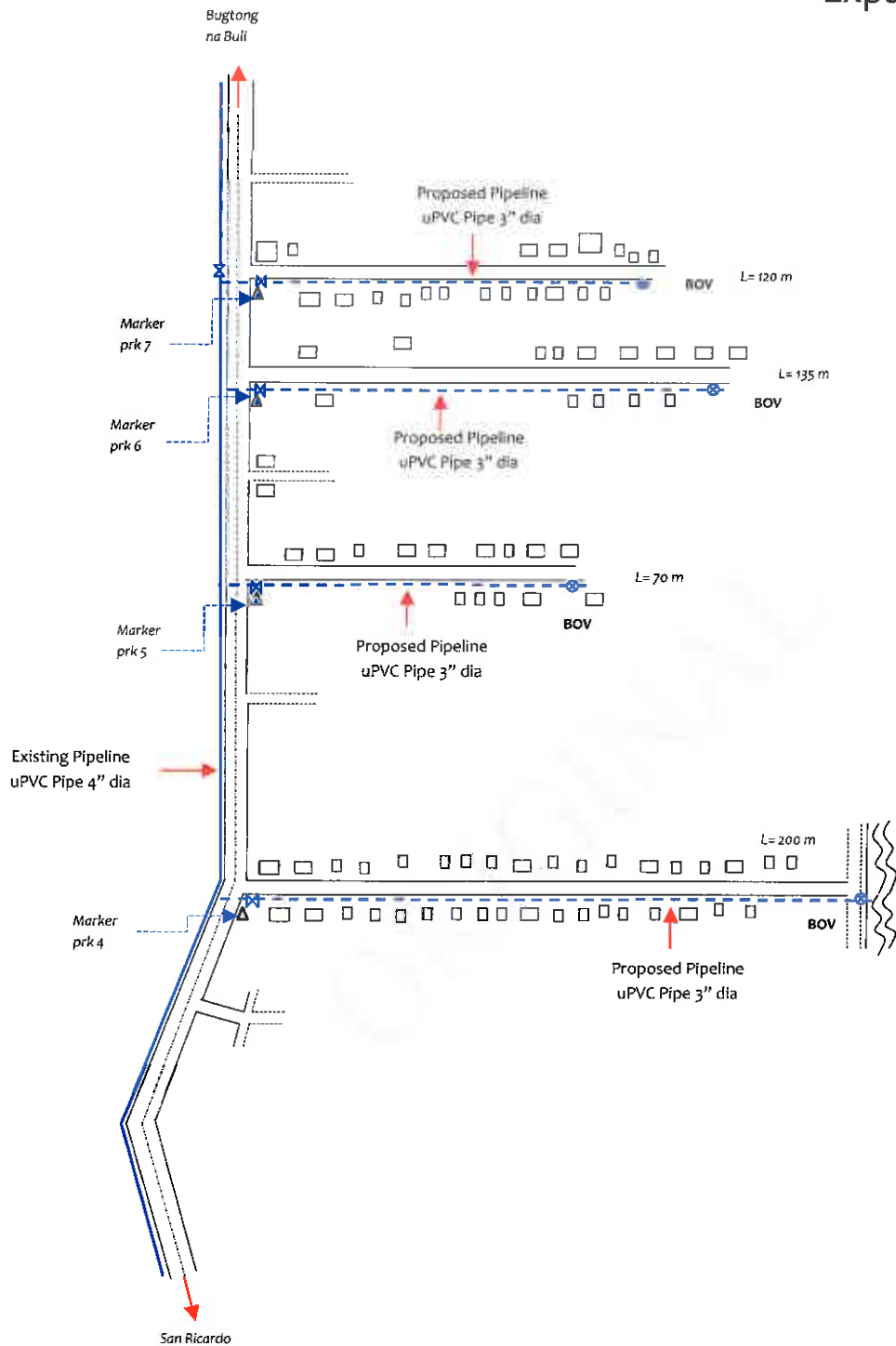
Purok 1

L = 270 meters

Prepared by:

RENE A VILLEGAS  
SWUDO

Expansion of Pipeline



Barangay Dimasalang Norte

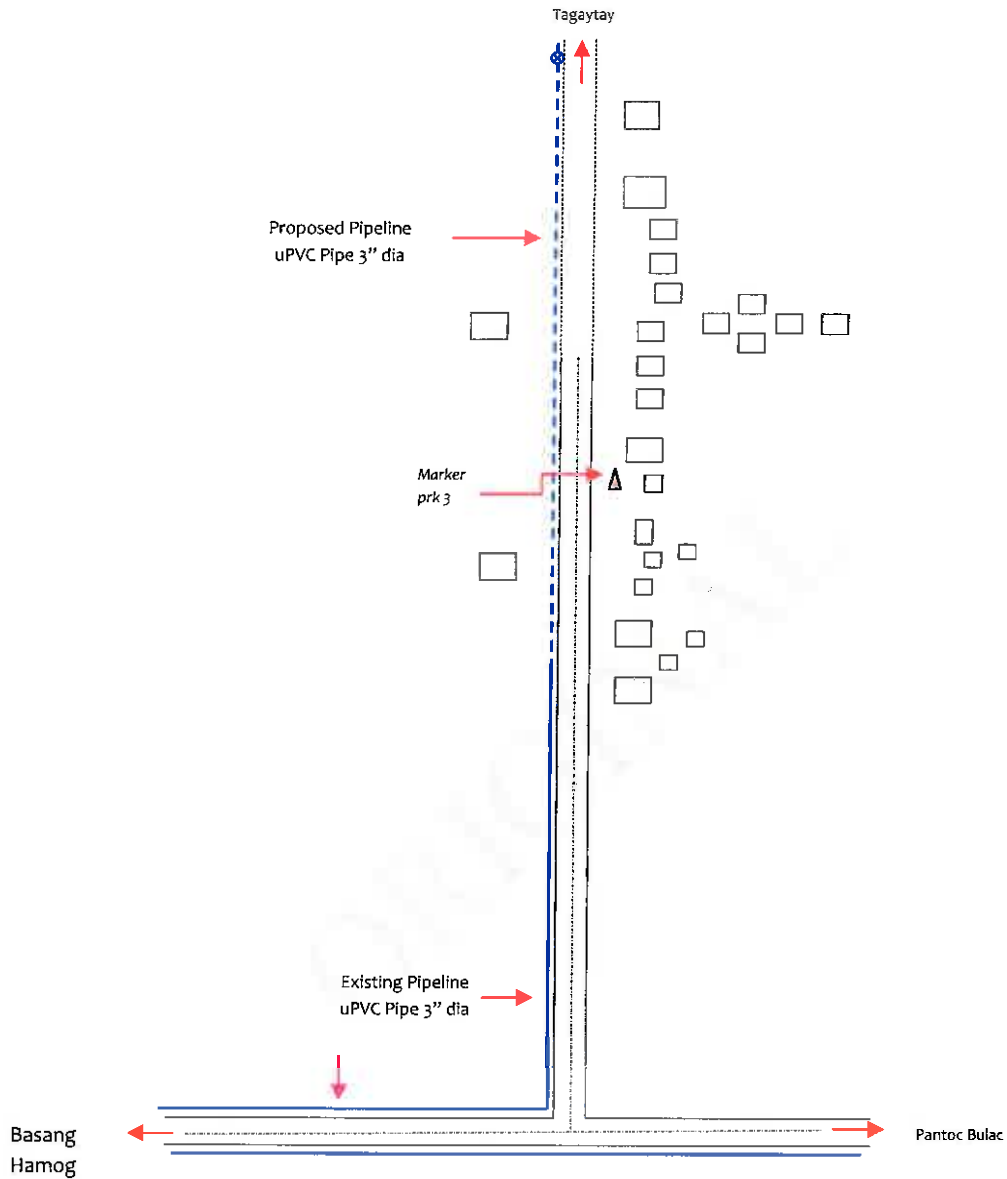
Prk 4, 5, 6

L = 540 meters

Prepared by:

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SWUDO

Expansion of Pipeline



Barangay Pantoc Bulac

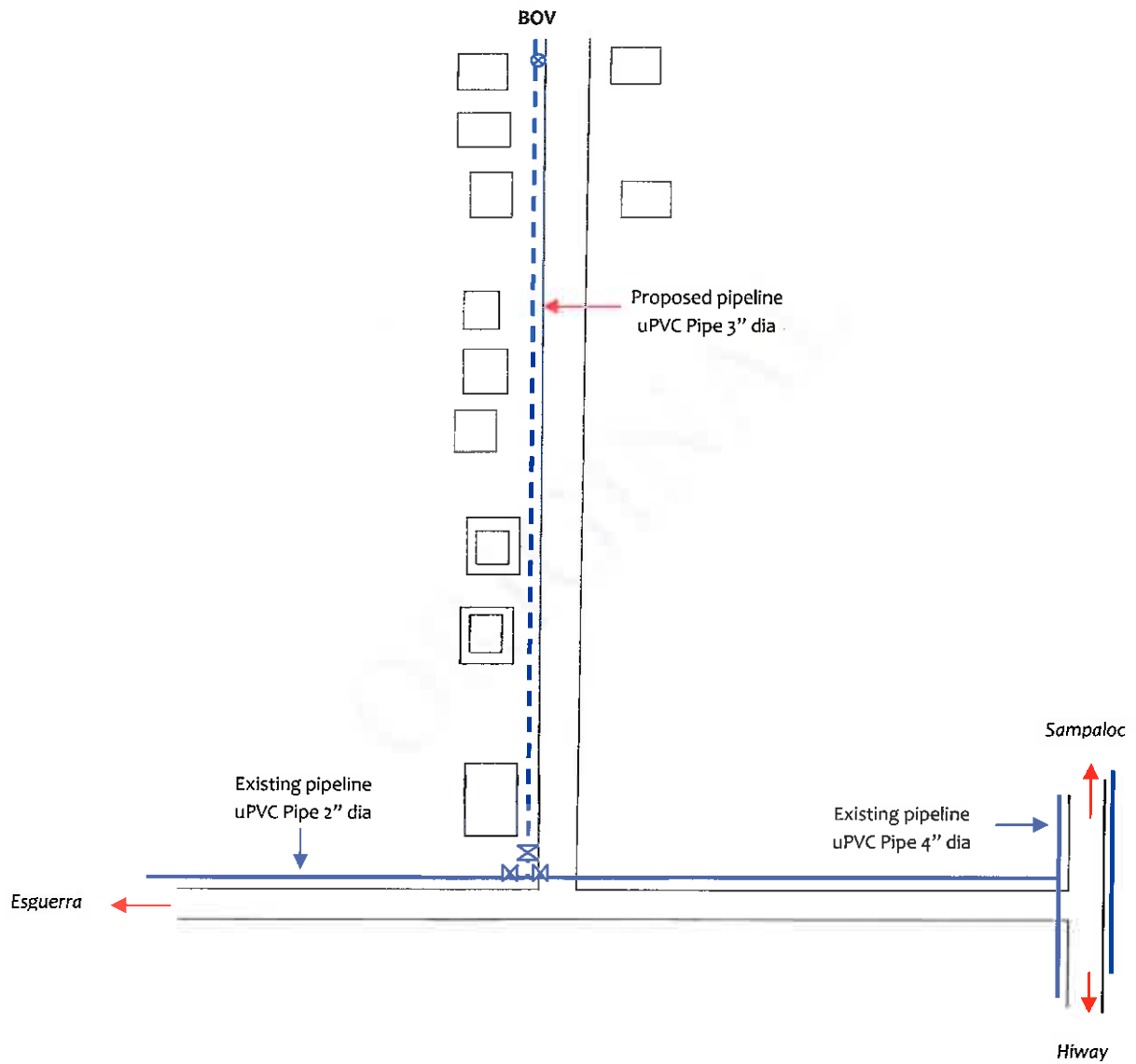
Prk 3

L = 360 meters

Prepared by:

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Expansion of Pipeline

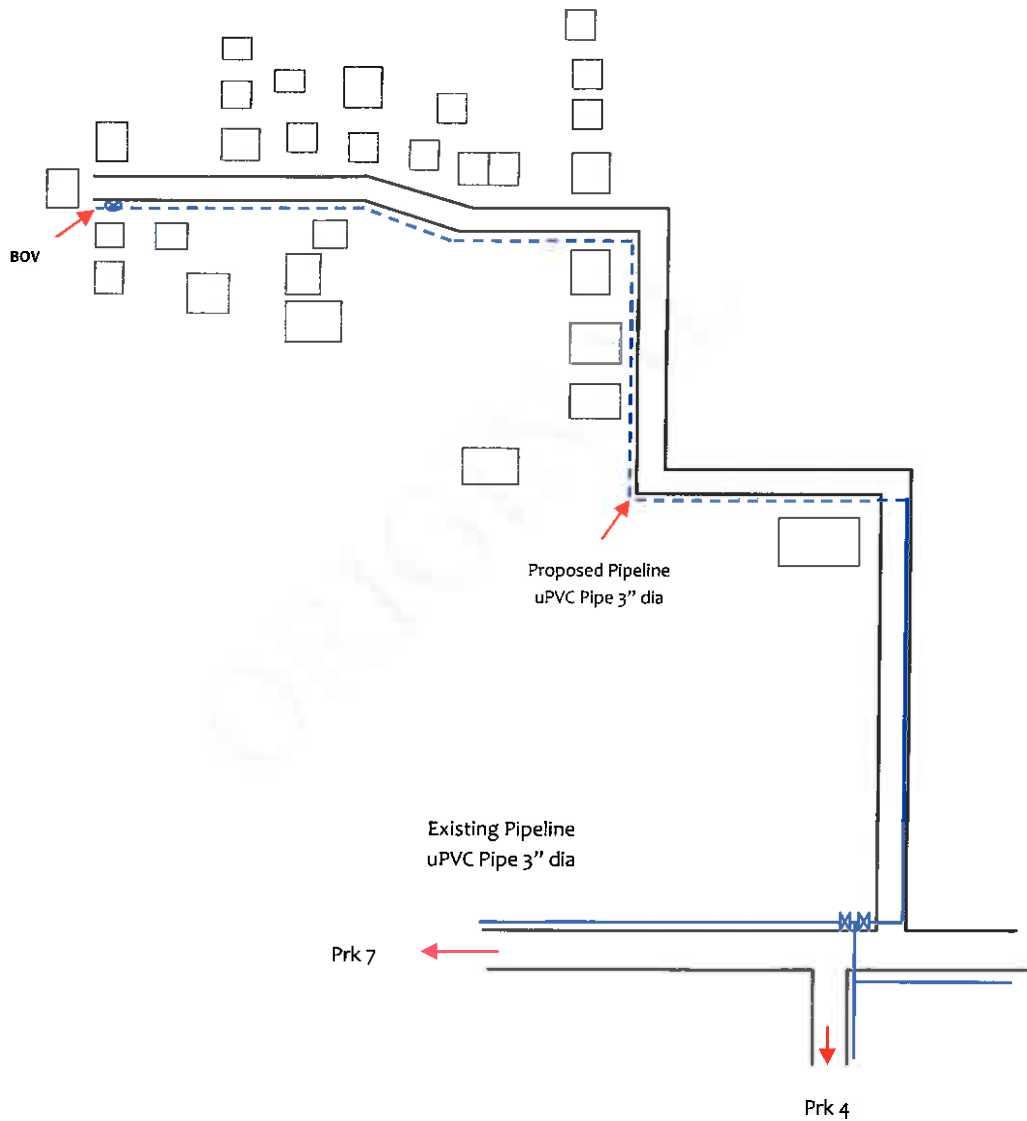


Barangay Marcos  
Prk 5  
L = 120 meters

Prepared by:

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SWUDO

Expansion of Pipeline



Barangay Bantug

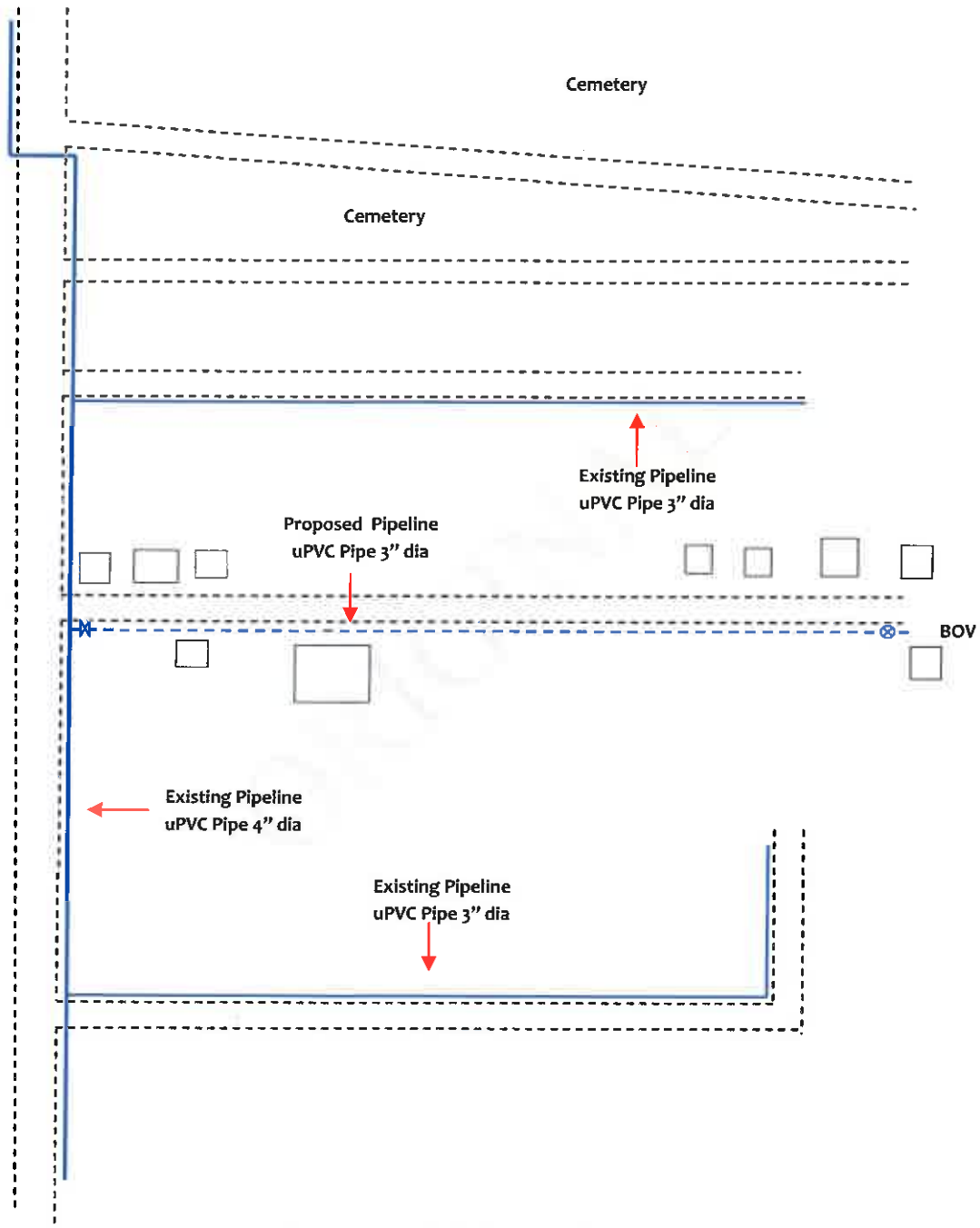
Prk 2

L = 180 meters

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SWUDO

Expansion of Pipeline



Barangay Poblacion Sur

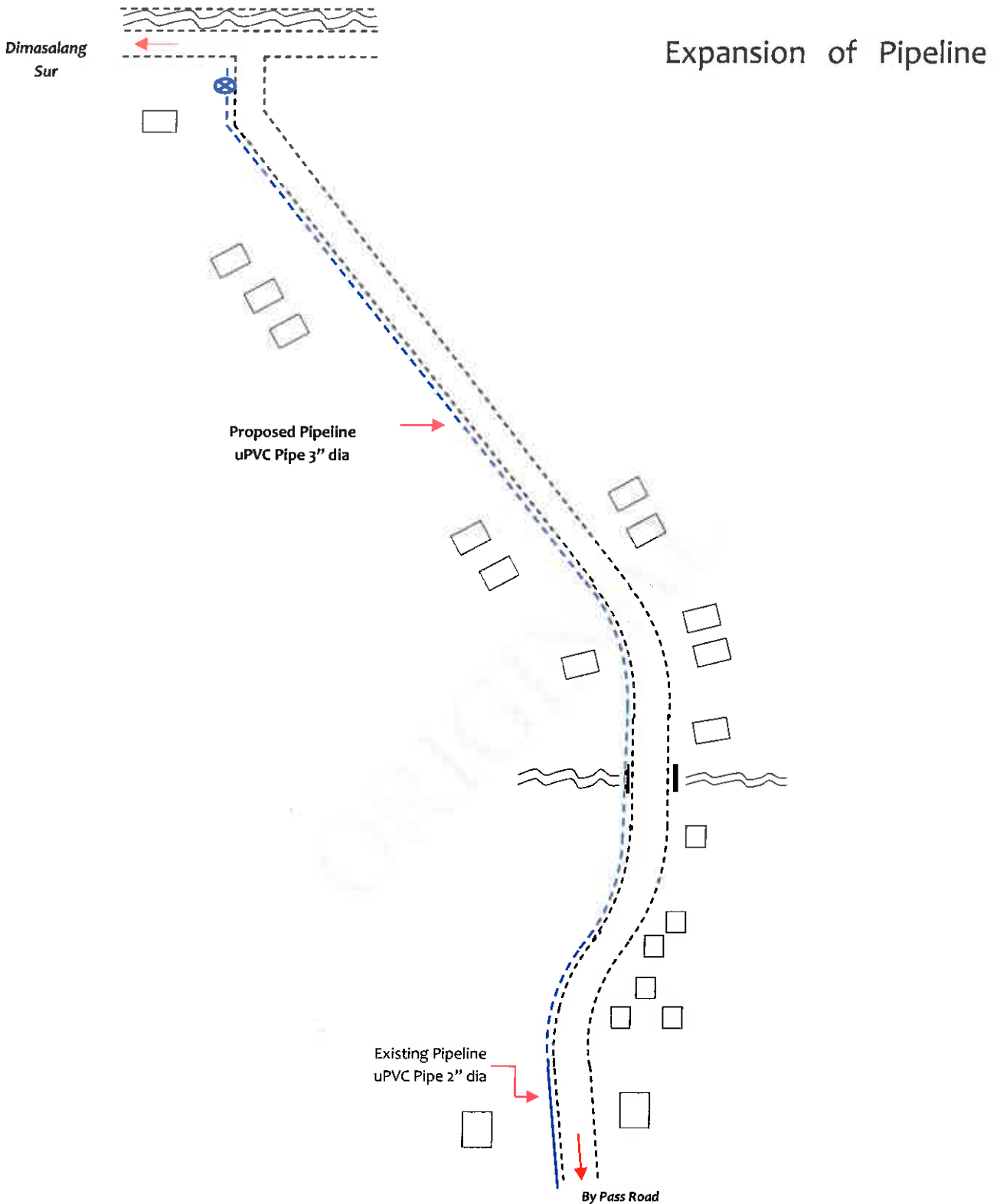
Prk 7

L = 210 meters

Prepared by:

RENE A VILLEGAS  
SWUDO





Barangay Sampaloc

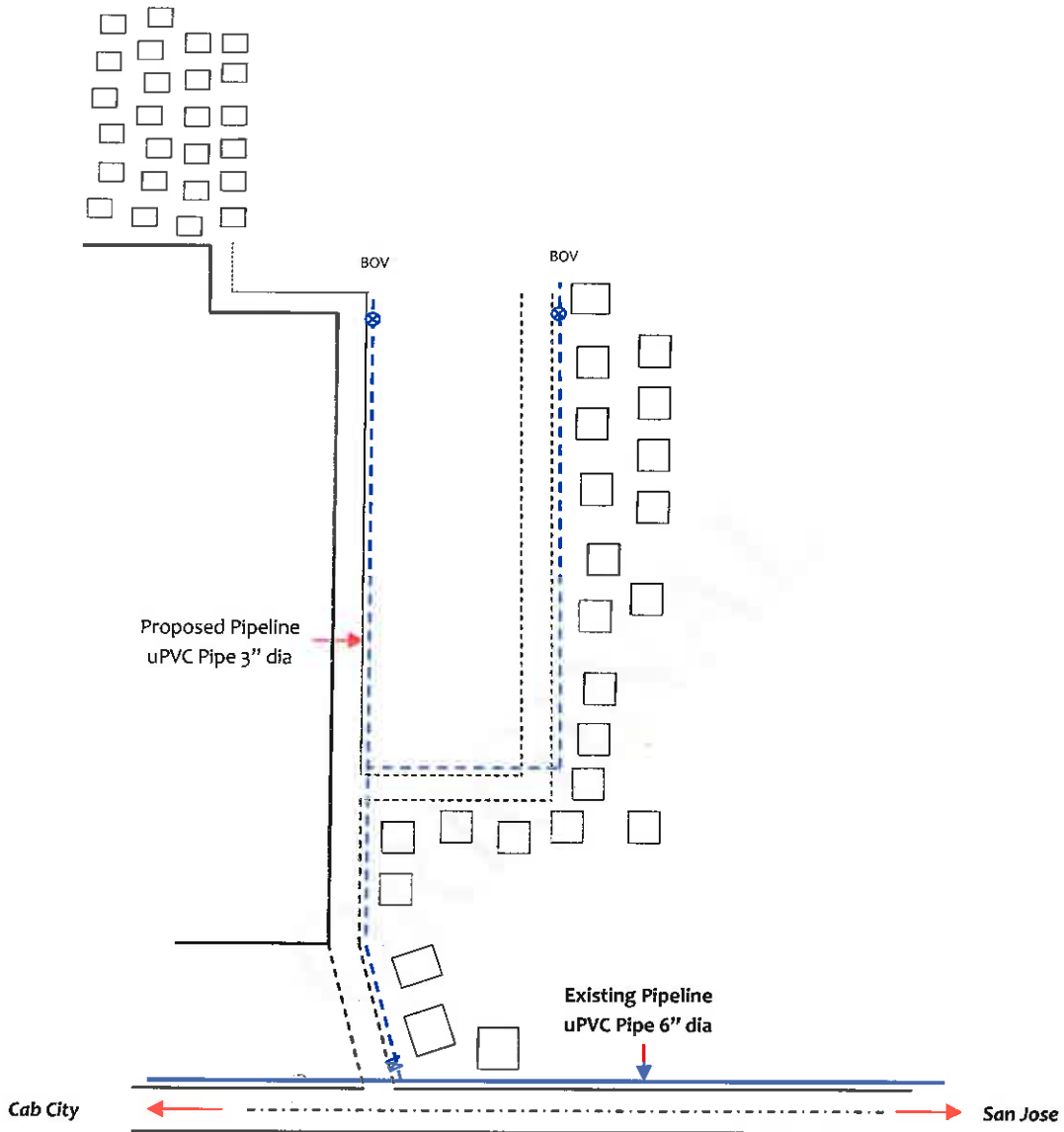
prk 7

L = 540 meters

Prepared by:

RENE A VILLEGAS  
SWUDO

Expansion of Pipeline

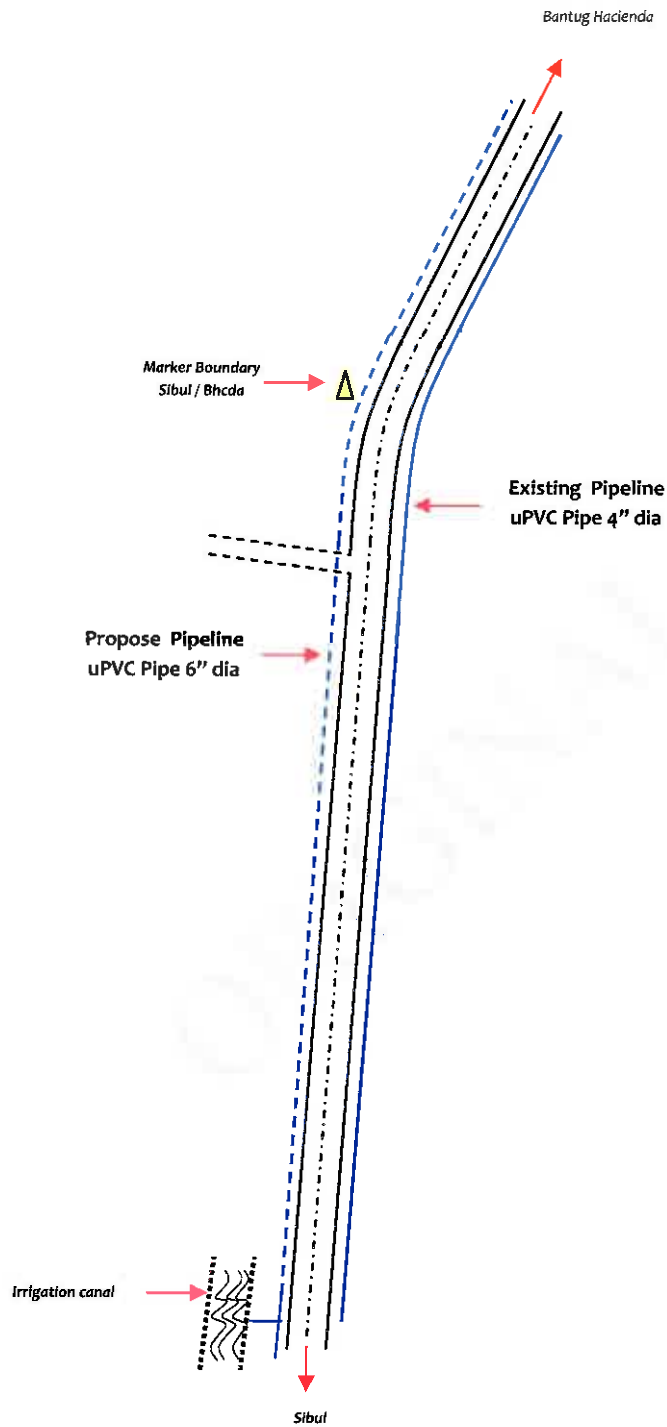


Barangay San Pascual  
prk 6  
L = 300 meters

Prepared by:

RENE A VILLEGAS  
SWUDO

Parallel PipeLine



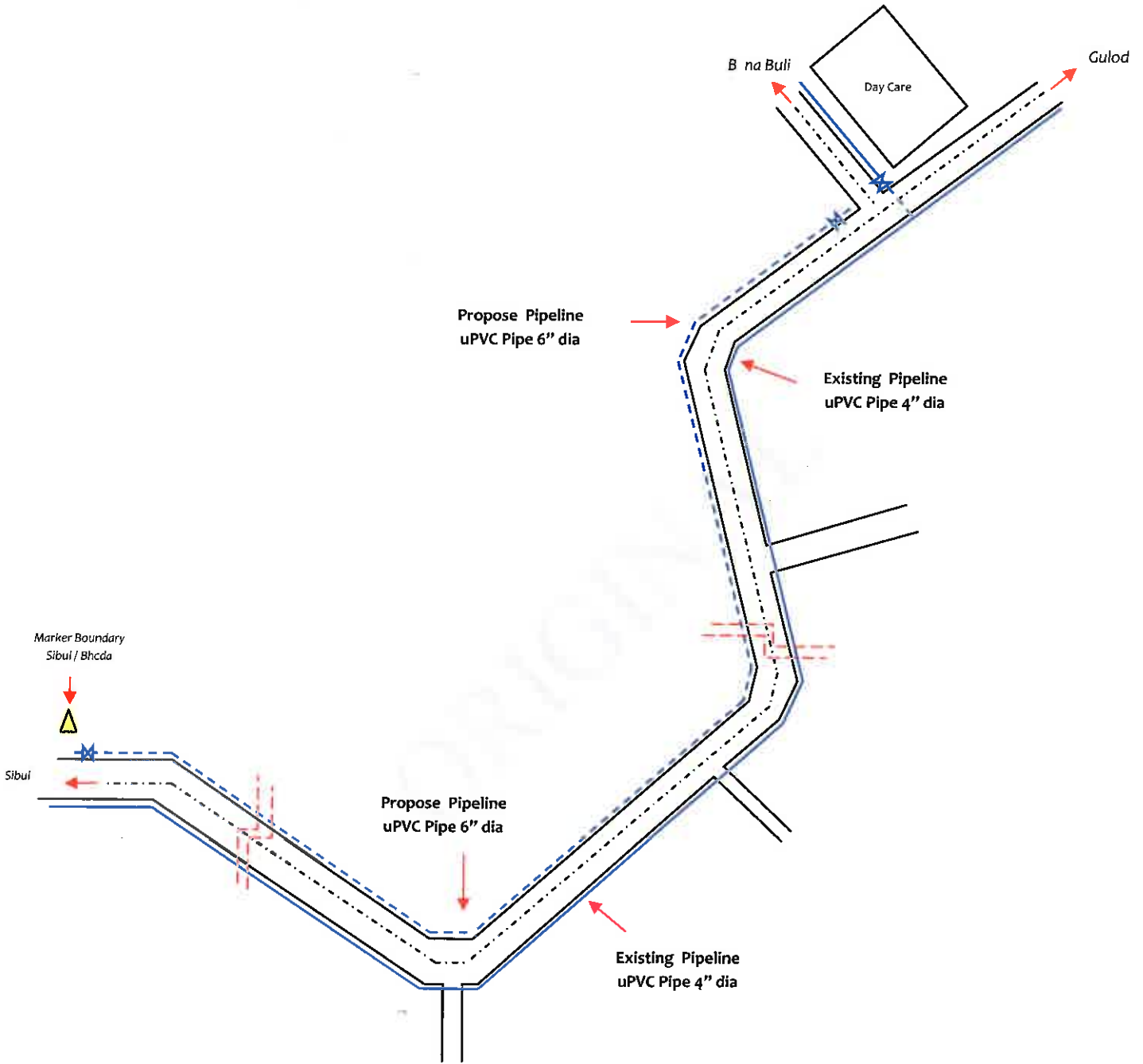
Barangay Sibul

L = 600 meters

Prepared by:

RENE A VILLEGAS  
SWUDO

Parallel Pipeline



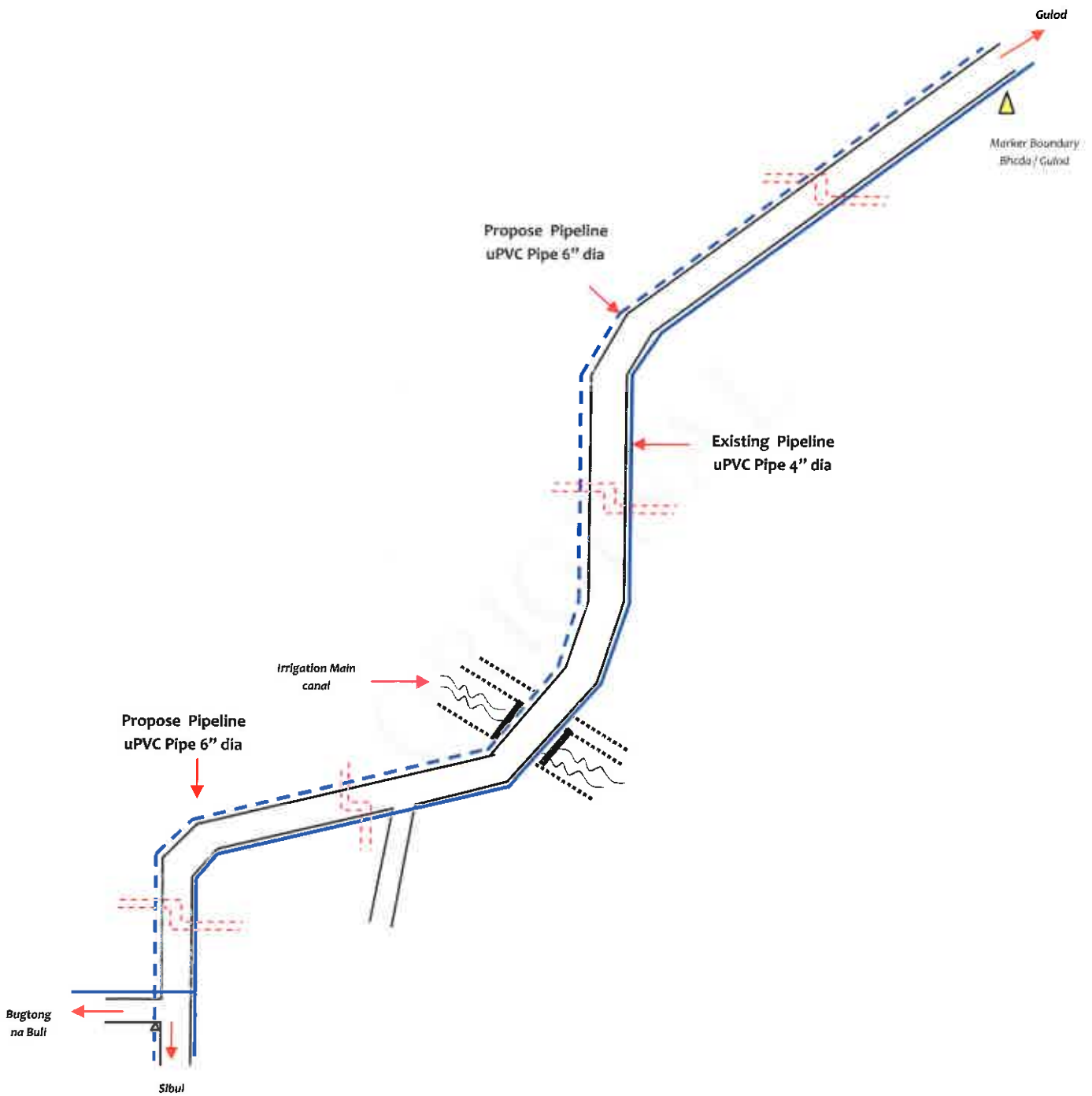
Barangay Bantug Hacienda

L = 630 meters

Prepared by:

RENE A VILLEGAS  
SWUDO

Parallel Pipeline



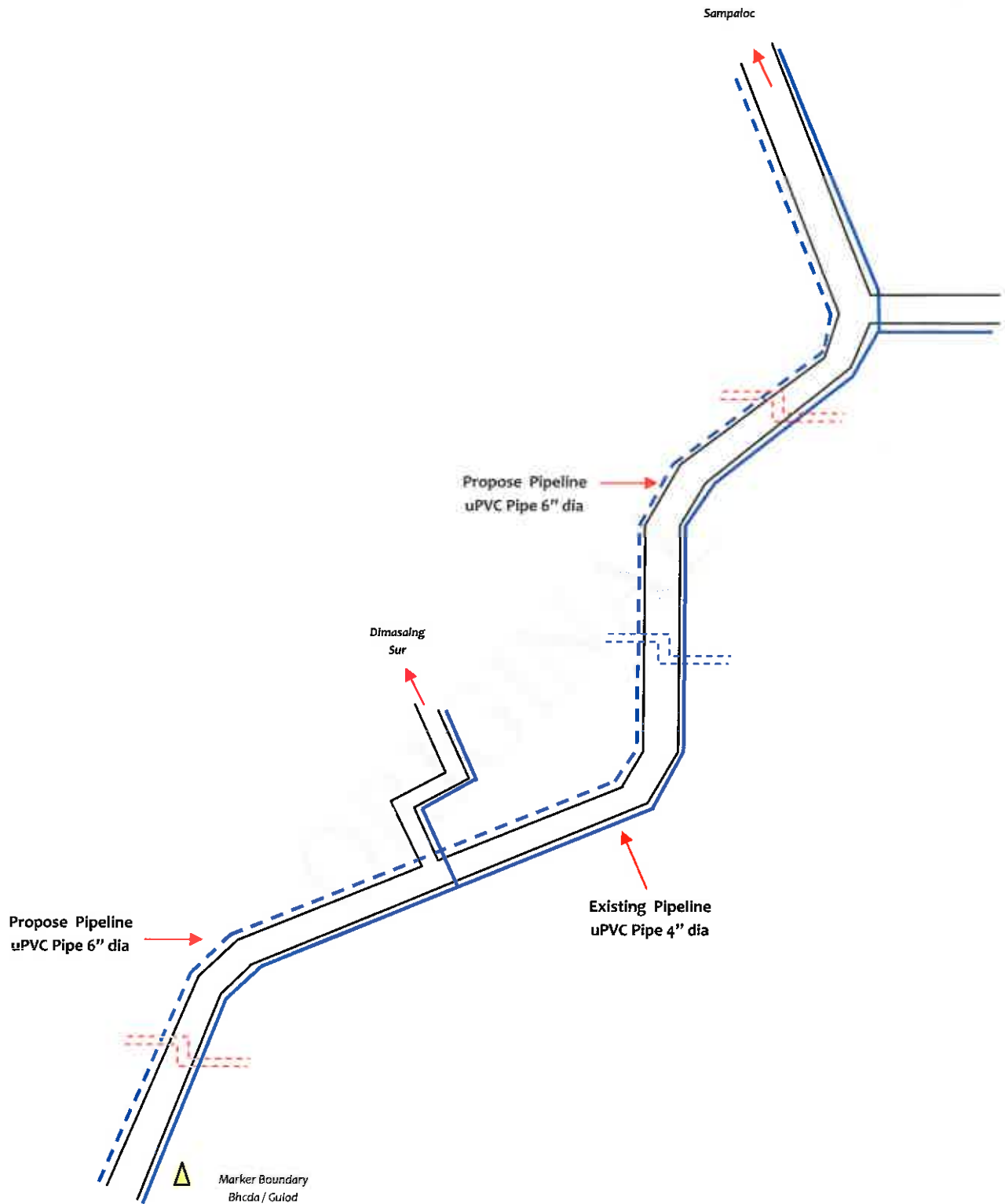
Barangay Bantug Hacienda

L = 630 mtrs

Prepared by:

RENE A VILLEGAS  
SWUDO

Parallel Pipeline



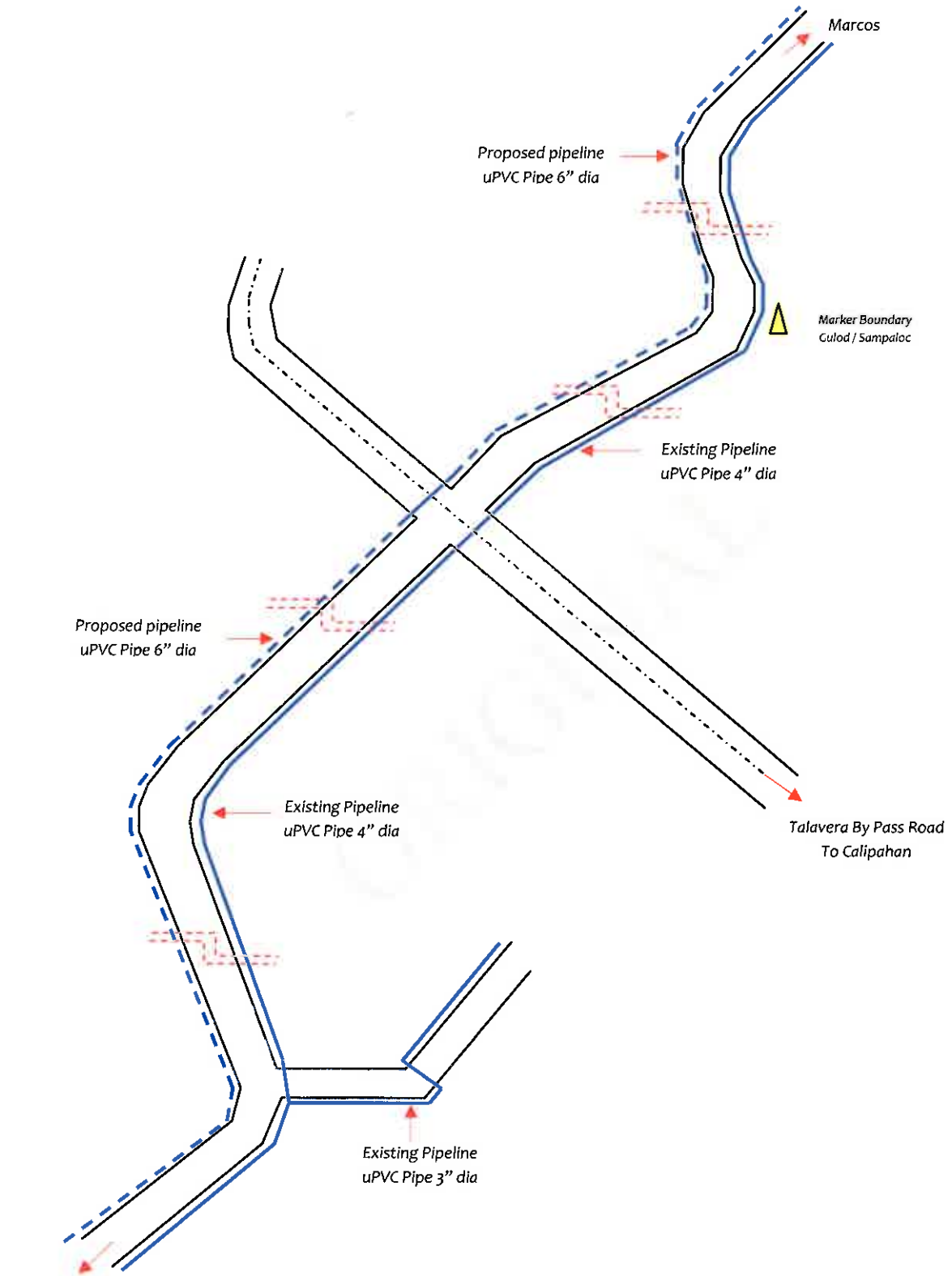
Barangay Gulod

L = 630 meters

Prepared by:

RENE A VILLEGAS  
SWUDO

Parallel Pipeline



Bantug Hacienda

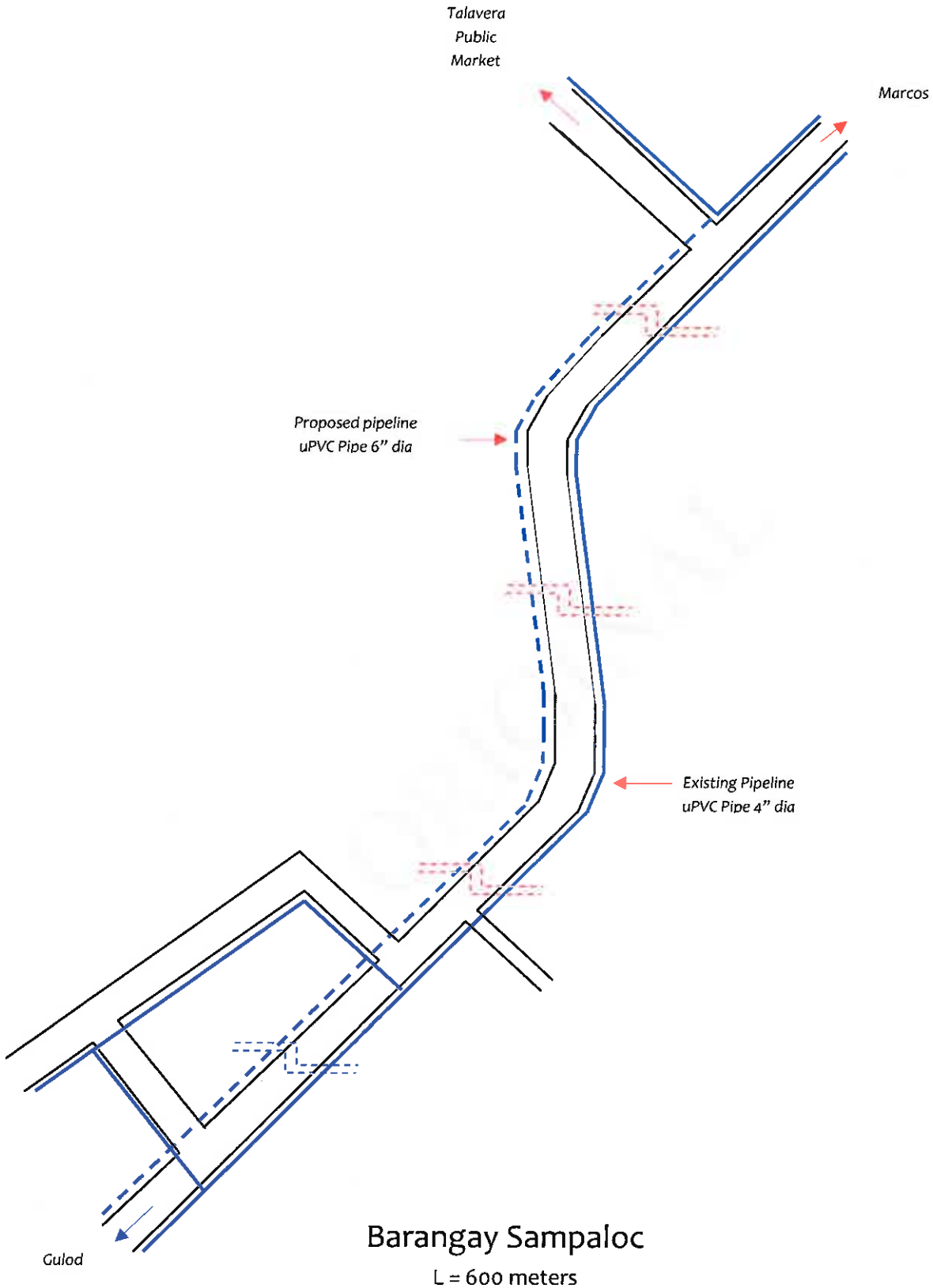
Barangay Gulod

L = 630 meters

Prepared by:

RENE A VILLEGAS  
SWUDO

Parallel Pipeline

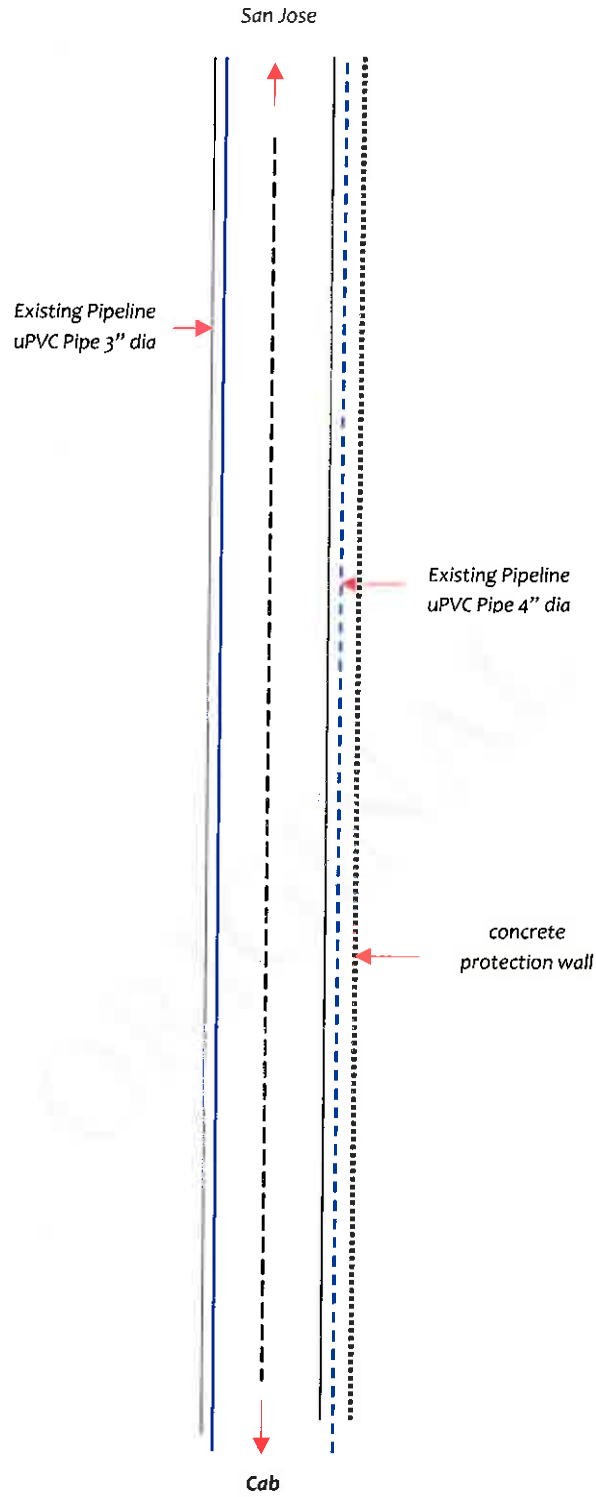


Prepared by:

RENE A VILLEGAS  
SWUDO



Parallel Pipeline



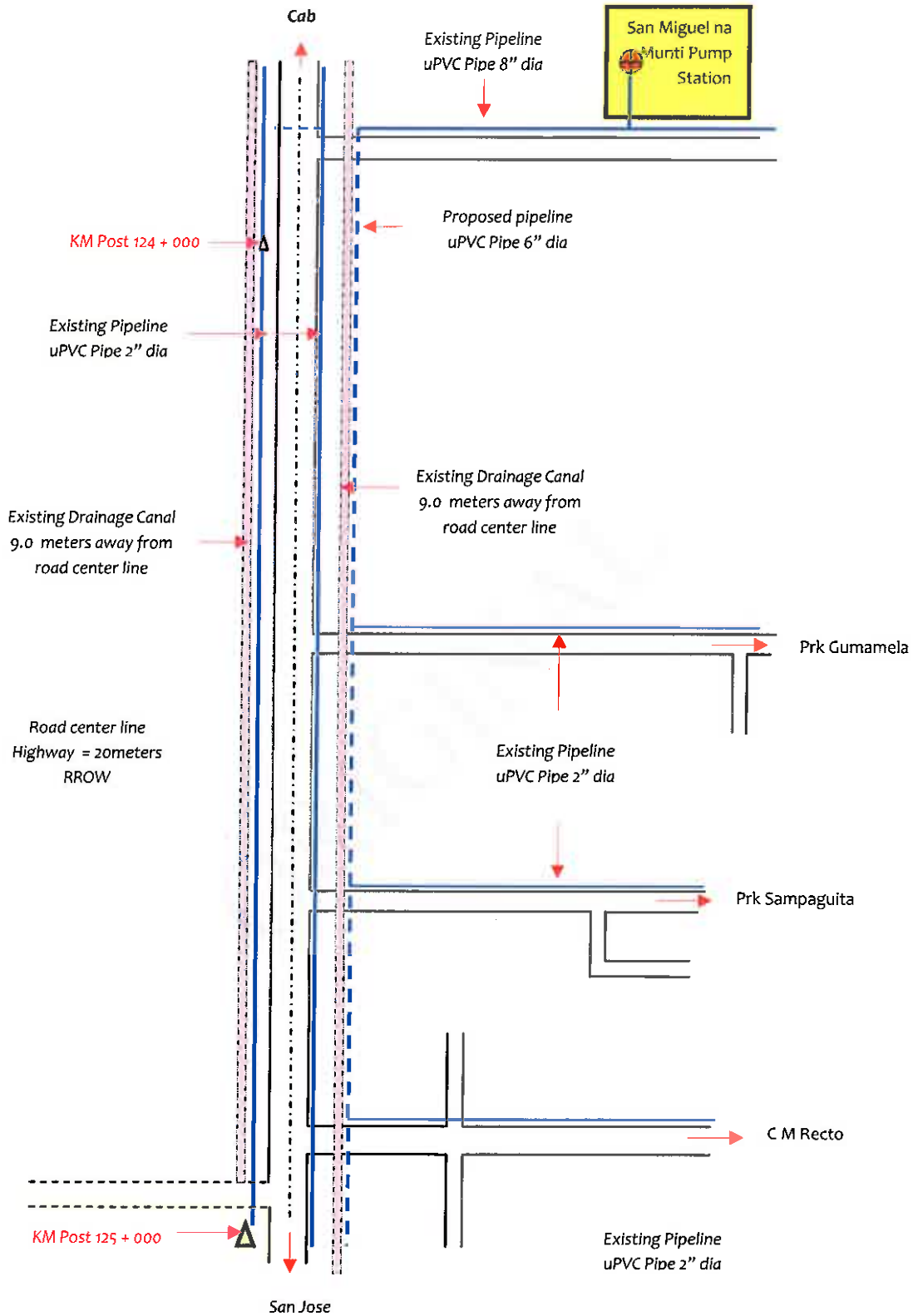
Barangay Bagong Silang

L = 600 meters

Prepared by:

RENE A VILLEGAS  
SWUDO

Relocation of Pipeline



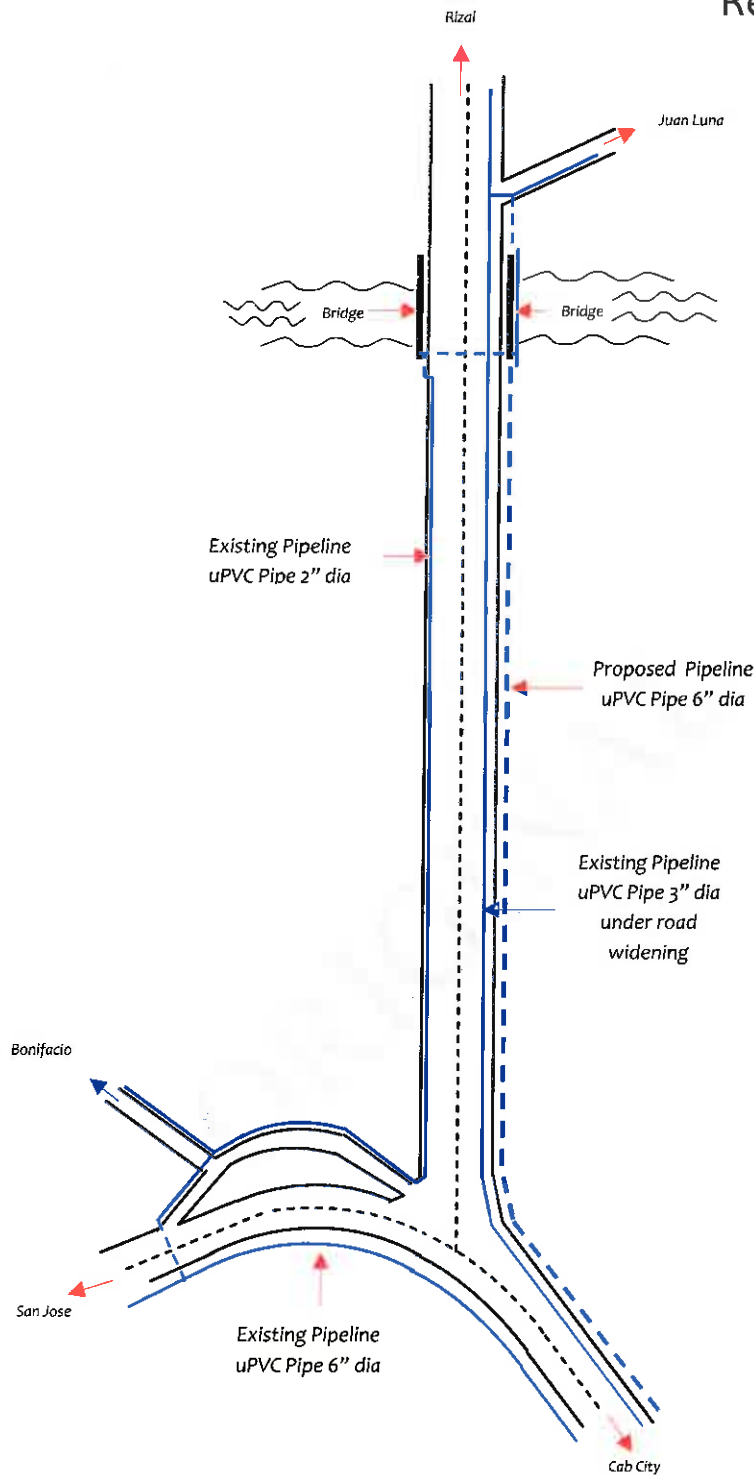
Barangay San Miguel Na Munti

L = 1,260 meters

Prepared by:

RENE A VILLEGAS  
SWUDO

Relocation of Pipeline



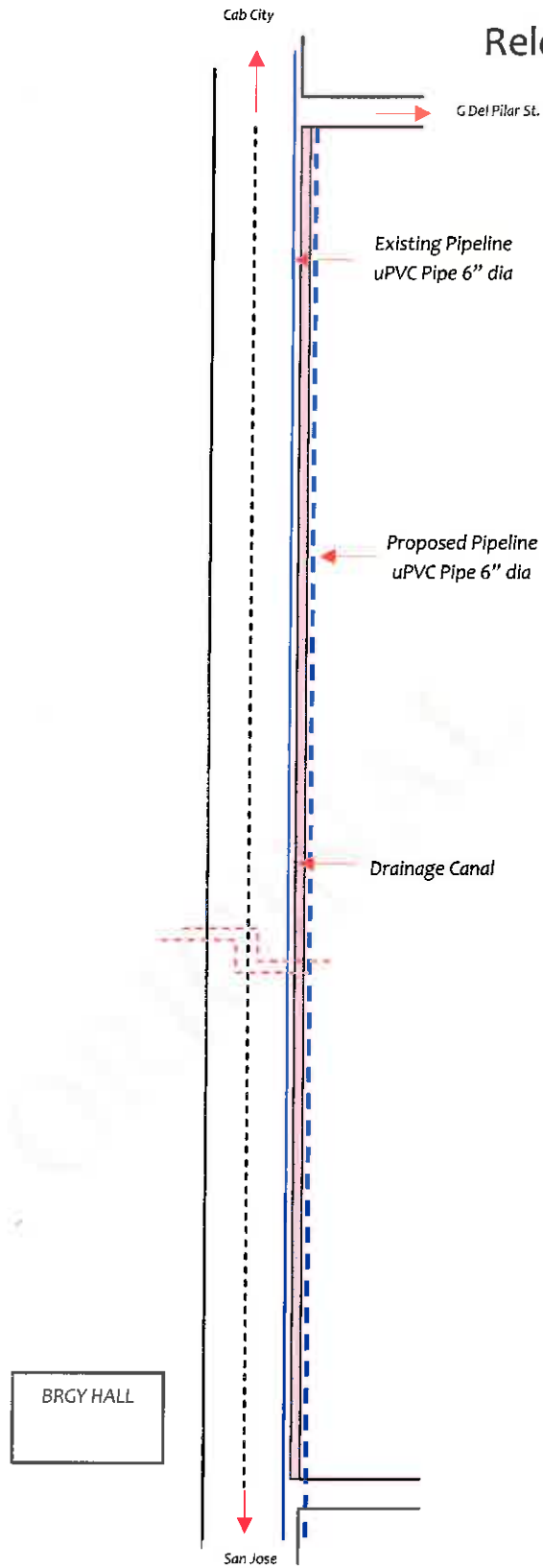
Barangay Pinagpanaan

Jose P Rizal

L = 600 meters

Prepared by:

RENE A VILLEGAS  
SWUDO



Barangay Dinarayat

L = 1,260 meters

Prepared by:

RENE A VILLEGAS  
SWUDO