NO-DES Water Main Cleaning, Distribution Water Quality Improving Technology

NO-DES is a new water conservation technology that replaces current and wasteful water main flushing (or hydrant flushing) methods performed by all municipalities to clean their distribution water mains and improve distribution water quality. The NO-DES method is the only water main cleaning process that conserves precious water, has the ability to add disinfectant, improves water quality and pays for itself.

Stop This:

By Using These:

See our cost comparison work sheet that will show how fast NO-DES will pay for itself - Also see our pricing list.
The ongoing drought, water supply and water quality issues have made NO-DES a topic of great interest for solving water distribution system problems!

The town of Hillsborough CA has been flushing their mains now for over four years with their NO-DES truck unit; and with great results. In fact, when Hillsborough performed their conventional flushing in the past, they would receive 5 to 10 dirty water complaints from customers in the surrounding areas; from each flush! After implementing the NO-DES flushing system for over two years now, they haven’t received even one water quality complaint related to the NO-DES flushing!

As you are aware, all of us in the water industry are dealing with drought conditions and population growth; water supplies everywhere are becoming critical. Hydrant flushing is a horrific waste of water; it’s a slap in the face to all of the water consumers that are asked to conserve water. Water purveyors should lead by example in water conservation, not flushing hydrants during the worst drought in history! The obvious thing for most cities to do is to cut or reduce their hydrant flushing programs, but this short term solution creates a double edge sword. Most cities started cutting their flushing programs years ago, and now they’re starting to pay the hefty price; with heavily loaded dirty water distribution mains, which in turn is creating more water quality complaints; but now with less water supplies available than when the programs were cut - so it’s much harder to flush now when you really need to!

We are also seeing more and more water company's scaling back on their water conservation programs because of the drop in revenues and the increase in budget deficits! But utilities have to ask themselves:

1. Can you really afford to continue to flush large volumes of your water supply down the drains? Remember, the energy it takes to produce that wasted water (pump, treat and pressurize) flows down the drain also.
2. Do you want to save monies?
3. Do you want to improve the water quality in the distribution system, without creating customer complaints?
4. Wouldn't you want to boost positive PR with your customers and peers?

Our new NO-DES water main flushing technology can save the water and monies that’s currently being flushed (wasted) out of hydrants all over the world! Because:

- It saves between 1 to 6% (or more) of water supplies annually!
- It saves the energy required to produce, treat, pressurize and deliver the water.
- It improves the water quality to a higher standard than it was before delivered
- It cleans and scourcs the insides of the mains more effectively than conventional flushing techniques!
- It increases the safety of the water by increasing the disinfection “in the distribution system”.
- It solves issues with chloramines, removes bio-films and eliminates nitrification.
- It refreshes the water – eliminating water age at dead ends!
- It helps to reduce DBP’s.
- It eliminates NPDES issues and fines!
- It reduces water quality complaints from the CUSTOMER!
- It eliminates pressure loss and surging (water hammer), reducing main breaks and main damages.
- It eliminates property damage.
- It improves PR with your customers! You can lead by example in water conservation!
- NO-DES flushing technology saves money – It pays for itself!
We have a cost comparison analyzer (attached) that can show your cost and water savings when using our NO-DES flushing technology! It will clearly show you that conventional flushing pays no returns (ever); and that the NO-DES system will overtime pay for itself, and then save monies!

Our patented flushing method and process is truly a green initiative – When cities everywhere are running out of water, we can save them the water that is otherwise wasted with their current hydrant flushing practices. But unlike all other conservation programs, that target the end user, to use less water; NO-DES targets the water purveyors themselves to stop wasting their water supplies (before it ever reaches the customer)!

This is important because this water that is being flushed from the hydrants was either purchased from another supplier or was pumped, treated and distributed at a cost to the water company – This cost is being lost by the cities along with the water supply as it is flushed out of the hydrants and down the storm drains

No valves are closed! No service connections are shutoff! The NO-DES system is connected to two hydrants or blow-off’s, the hydrants are then opened and the NO-DES unit is pressurized; the NO-DES system becomes a temporary loop in the distribution system, just as a booster pump system does. The NO-DES pump, circulates water at desired flows in the opposite direction of the natural flow of the main being flushed.

This stirs up sediment and scours the inside of the main between the two hydrants only. As the water is circulated within the temporary loop by the NO-DES unit it passes through our multi-filtration system, which removes particles down to one micron “absolute” in size, and disinfectant is added. The distribution system water does not leave the distribution system; distribution pressures and flows are maintained at all times during the NO-DES flushing cycle.
The NO-DES pump, circulates water at desired flows in the opposite direction of the natural flow of the main being flushed within this loop using our patented "Reverse Flow Technology". This stirs up sediment and scours the inside of the main between the two hydrants only; this is much more effective than conventional in-line flushing. This “Reverse Flow Technology” virtually eliminates the possibility of contamination in other parts of the water system as opposed to conventional flushing methods, which raise concerns with customers who commonly experience discolored water entering their homes.

As the water is circulated within the temporary loop by the NO-DES unit it passes through our patented multi-filtration system, which removes particles down to one micron "absolute" in size, and is disinfected. Water utilities frequently have difficulty maintaining adequate disinfectant levels throughout their systems, especially in the outlying parts, which is also addressed by wasteful flushing methods.

Our NO-DES flushing design targets mains from 2" to 14"; most mains above 12" are predominately transmission mains and maintain higher flows, which prevent settling. We incorporate a variable speed pump that can achieve up to 1,700 gpm (on our standard production models). This varies depending on the lengths of hose used, filter loading and size of main being flushed!

To achieve 5 ft / sec

2” main = 49 gpm  
4” main = 196 gpm  
6” main = 441 gpm  
8” main = 783 gpm  
10” main = 1224 gpm  
12” main = 1762 gpm

With our NO-DES unit you can adjust the rate of flow with our variable speed pump and flow meter. We have a placard showing the operator exactly what gpm rate is needed to achieve the desired 3-5 ft/sec velocity for each size main to be flushed. This removes any chance of missing the target velocity, and eliminates common issues of water hammer or lining damage.
Unlike most conventional flushing programs, where crews just open the hydrants and let it blow, not knowing the exact velocities inside the main; we know exactly what the velocity is at all times! NO-DES has flushed many areas that were previously conventionally flushed – We found that there were still substantial amounts of bio-film left in the main; the NO-DES process effectively removed it!

When performing conventional hydrant flushing, most if not all water professionals do not know when or if all of the bio-film has been removed! Most crews just observe a glass (or multiple sample bottles) with their naked eye and think it looks clear enough to stop flushing!

From our extensive NO-DES flushing experience we have noticed that most bio-film cannot be seen with the naked eye (again, in a glass) and still exists when the water turbidity is between 1 and 10 NTU’s – The naked eye cannot see a difference between 1 and 12 NTU's when observing with just a glass; so conventional flushing crews are usually leaving most of the bio-film in the main after the flush is completed (and leaving it stirred up to be consumed by the customer)!

NO-DES technology monitors four important factors to ensure that the bio-film (or particulates, iron, manganese, etc.) has been removed:

1. Flow – NO-DES uses a flow meter to determine that it is achieving the proper flow rate inside the targeted main (between 3 & 5 ft/sec). This ensures that the inside of the water main walls is properly scoured and cleaned! NO-DES also uses the reverse flow method, increasing the effectiveness of the scouring action!

2. Turbidity – NO-DES analyzes the water with inline turbidity meters to ensure it is below 1 NTU (1 NTU is the determining factor that the NO-DES flush is completed), this also ensures that all of the bio-film has been scoured off the inside of the water main and removed thru our one micron “absolute” filtration.

3. Residual – NO-DES adds liquid chlorine to kill any bio-film that was scoured off and removed. The added chlorine also attacks any remaining new exposed layers of bio-film and helps remove them until their gone! Example: Towards the end of most NO-DES flushing events, we constantly see the turbidity increasing slightly as the residual corresponding decreases (this might occur several times); this is the process of newly exposed layers of bio-film being scoured and removed. When the turbidity reading steadies out at less than 1.0 NTU’s and the CL2 residual is constant, we know that all of the bio-film has been removed.

4. Time & Flow Rate – The amount of time, times the flow rate allowed during each conventional hydrant flushing event is another big important difference between conventional flushing and the NO-DES flushing process. When conventional hydrant flushing (flowing to waste), the amount of time that the hydrant is open and flowing, is directly proportional to the amount of water being lost from your water supply; so the operator is compelled to keep the conventional hydrant flushing time as short as possible (to save water). In comparison once the NO-DES equipment has been set up at the flushing location and the flushing process is started (the water is just being circulated, not wasted); so if the operator observes (from the NO-DES analyzers) that there is more particulates, iron, manganese or bio-film still present and needs to be removed (thus needing more flushing time), he just simply continues the flushing run until the bio-film is completely removed, with no increased costs or waste of precious water. NO-DES flushing run time can also be extended for fine tuning the disinfectant residual!

The limit of main length to be flushed is predicated on the amounts of hose you have – We supply each unit with 1,000’ of 5” double jacketed lay flat approved hose (two reels), and 400’ of 2-1/2” hose (one reel). You can purchase additional hose (and reels) for longer hose runs – We have also created a
technique (by valving) which can allow the NO-DES flushing process to flush larger sections of main while only using the existing hose. We have experienced flushing runs of over 8,000 ft (per one flushing run), this technique increases the efficiency x 10+…

One NO-DES flushing unit (truck or trailer) can efficiently 100% flush the average city with a population of approx. 30,000 to 60,000. Understand that most water departments would not conventionally hydrant flush (to waste) their entire distribution system in one year; they would divide it up into third’s, fourth’s or fifth’s (taking 3, 4 or 5 years to complete 100% of their water distribution system). With the NO-DES flushing technology they could flush their entire proposed system (based on a population of 50,000) each year; that’s 100% of their distribution system each year using the NO-DES flushing technology!

There are approx. 1,250 fire hydrants per every 50,000 in population (a conservative estimate). For our case study we use a city population size of 50,000 with approx. 1,250 fire hydrants. The conventional hydrant flushing crew would consist of two or three persons (having to comply with NPDES regulations, etc.) – The NO-DES flushing crew would also consist of the same two or three persons! So labor is the same!

Each hydrant can flow between 500 and 1,500 gpm from the hydrant steamer ports (4” or 4-1/2” Port) all depending on main sizing and system pressures. So for a conservative estimate we will use 1,000 gallons per minute for the flow rate. The average time flushing at each hydrant is 15 minutes. 1,000 gpm times 15 minutes’ equals 15,000 gallons lost from each hydrant flushed, on average.

Using the NO-DES flushing technology scenario they could flush the entire distribution system (with a population of 50,000) which would equal 1250 hydrants that would have been flushed to waste using the conventional hydrant flushing method (but was now conserved using the NO-DES technology) – So to calculate the water saved (after NO-DES flushing for one year) you would take 1,250 hydrants x 15 min’s x 1,000 gpm = 18,750,000 gallons of precious water saved (that's 18.75 Million Gallons saved) in just one year. The average cost of the water lost is $3,000 per million gallons – so $3,000 x 18.75 mg = $56,250 saved each year. At this rate the NO-DES equipment would pay for itself in approx 5 years.

If your population is 100,000 and you had one NO-DES unit, you would flush 50% of your distribution system each year (for two years) and it would still pay for itself in approx 5 years.

After reading the above case study how could any water manager opt to use wasteful conventional hydrant flushing methods ever again? Just ask yourself; how much water and monies did you save using your wasteful conventional hydrant flushing methods last year! Yes, it’s that easy! The crew trucks, the back-hoes and the vac trucks that you purchased are more expensive than our NO-DES units, and they will never give you a return on the investment!

Below is a sample of how NO-DES can flush multiple loop sections of water main from one location.
**First flush** (bright yellow) – Set up between H1 & H2 on Donald, approx 800’ directly between hydrants.

**Second flush (purple)** – Same set up location between H1 & H2 on Donald – but flushing approx 2,400’ on Calle Del Prado & Via Verde & Donald – Close valves #1, #2, #4, #19 & #17

**Third flush (red)** – Same set up location between H1 & H2 on Donald – but flushing approx 2,800’ on Calle Del Prado & Via Verde & Donald – Open valves #19 - Close valves #17 & #18 - Leave valves #1, #2, #4 & #17 Closed. Note: Only the red section of this flush is counted as newly flushed main!

**Forth flush (Green)** – Same set up location between H1 & H2 on Donald – but flushing approx 2,600’ on Martin & Via Verde & Donald – Open valves #2 & #17 - Close valves #3, #8, #15 & #20 - Leave valves #1, #4 & #18 Closed. Note: Only the green section of this flush is counted as newly flushed main!

**Forth flush (dark yellow)** – Same set up location between H1 & H2 on Donald – but flushing approx 1,600’ on Camino Del Valle & Martin – Open valves #3 & #8 - Close valves #7, #11, #16 & #17 - Leave valves #1, #4, #15, #18 & #20 Closed. Only the dark yellow section of this flush is counted as newly flushed main!
Fifth flush (blue) – Same set up location between H1 & H2 on Donald – but flushing approx 1,600’ on Las Vegas Dr & Ashley & Calle Corta – Open Valve #11 & #16 - Leave valves #1, #4, #7, #15, #17, #18 & #20 Closed. Only the blue section of this flush is counted as newly flushed main!

Sixth flush (Orange) – Same set up location between H1 & H2 on Donald – but flushing approx 1,000’ on Ashley & Via Corta – Open Valve #7 & #11 - Leave valves #10 & #16 - Leave valves #1, #4, #15, #17, #18, #20 & #25 Closed. Only the orange section of this flush is counted as newly flushed main!

Seventh flush (pink) – Same set up location between H1 & H2 on Donald – but flushing approx 2,300’ on Van Ct & Las Vegas – Open Valve #10, & #15 - Close valves #7 & #12 - Leave valves #1, #4, #16, #17, #18, #20 & #25 Closed. Only the pink section of this flush is counted as newly flushed main!

Eighth flush (light blue) – Same set up location between H1 & H2 on Donald – but flushing approx 300’ on Via Corta – Open Valve #12 - Close valves #10 - Leave valves #1, #4, #16, #17, #18 & #20 & #25 Closed. Only the light blue section of this flush is counted as newly flushed main!

Ninth flush (light blue) up on Clinton – Same set up location between H1 & H2 on Donald – but flushing approx 3,200’ on Clinton & Alameda & Camino Del Valle – Open Valves #4, #7, #10, #16, & #25 - Close valves #2, #13 & #21 - Leave valves #1, #17, #18 & #20 Closed. Only the light blue section of this flush is counted as newly flushed main!

Tenth flush (dark blue) up on Ruffin Av – Same set up location between H1 & H2 on Donald – but flushing approx 3,200’ on Ruffin & Alameda & Camino Del Valle – Open Valves #21 - Close valves #24 - Leave valves #1, #2, #13, #17, #18 & #20 Closed. Only the dark blue section of this flush is counted as newly flushed main!

Total of 21,800 feet of main NO-DES flushed from one location (set up)! = 4.13 miles of main NO-DES Flushed (one set up, one day)

NO-DES water main flushing technology offers several other flushing options you can utilize (other than cleaning water mains):

- Newly installed water main flushing (chlorinating and de-chlorinating).
- Cleaning-up water mains after main leak/repairs (re-disinfect and samples).
- Water Storage Tank cleaning and draining (full or empty). This can be used in conjunction with divers inspecting, cleaning or repairing tanks that cannot be drained!
- Large Meter Testing Programs.
- GAC filter and other plant filter systems back-washing.
- Standard Booster Pump - The NO-DES unit was also designed to be used as a standard booster (or transfer pumping unit) and comes with 1,000 ft of 5” hose standard (more hose and reels are available upon request). The benefits are that the NO-DES unit will filter the water that is being transferred and can also be chlorinated if desired. These are benefits that traditional booster systems cannot make available.
- Private commercial/industrial fire service water main distribution systems.
- Fire Flow Testing.
- Emergency Water Treatment

Of course the primary function of the NO-DES system is to flush (clean) potable water distribution mains with a water conservation focus; so I want to bring up just a few of the additional benefit's that the NO-DES flushing system provides.

1. **Water Conservation**: NO-DES can save more precious drinking water than all other conservation programs combined.
2. **Energy Conservation:** NO-DES flushing saves the energy required to pump, treat, transfer, pressurize and deliver the water that is normally wasted conducting conventional flushing!

3. **Water Quality Improvements:** NO-DES cleans (filters) the water better than all distribution cleaning methods.

4. **A Diagnostic Tool – NO-DES safely Identifies Issues Hidden in the Distribution System:**

5. **Flushing after water main repairs:** This issue is a big concern with water providers, not only have you just seen large amounts of good treated drinking water spill down the gutters during a water main break; but once repairs are complete, your crews are now going to flush the area to waste to ensure that the water is safe and clean. If you owned a NO-DES unit, you could flush the area of concern and add disinfectant without wasting more water, something that has never been performed before, but always desired; now by using the NO-DES system, not only is the water clean and safe, it’s also ready for Bac-T sampling.

6. **Removal of bio film:** This issue is larger than the invention of NO-DES itself. Bio-film has been a big problem with almost all water systems, especially those that use chloramines; and up to now the only way to remove bio-film was to conduct extensive flushing to waste! With the NO-DES system you can not only remove this issue, but you can stay on top of bio-film build-up through a dedicated year round program using the NO-DES system; because there is very little water wasted, the NO-DES system can be employed 24/7, 365 with no adverse effects towards your distribution system or customers.

7. **Disinfection, including chlorine and chloramines:**

8. **Public Relations and perceptions:**

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**Information for Comparing Conventional Flushing to NO-DES Flushing**

**Costs –**

In the California bay area, we have found that the NO-DES flushing system cost approx 50% less than uni-directional flushing. The NO-DES system will pay for itself over time – Uni-directional flushing will always waste water and money (it will never pay for itself)!

The water saved can be construed as a new water source for planning purposes!

Important Note: When costing the wasted water that is saved; we are trying to convince our customers to use the cost that their customer would pay for the water, rather than use the price that they purchase the water wholesale for! And here’s why; the wasted water flows out of a hydrant located somewhere in the midst of a distribution system, a distribution system that has many costs to maintain it (those costs have to be factored in to the equation).

If you were conventionally flushing from a hydrant located directly on top of the inlet piping where you receive your purchased water; than yes, you would use the purchase water cost in the equation! But that’s never the case - you are using hydrants located throughout the distribution system - and that distribution system has a cost to maintain it. NO-DES saves water that is located in the distribution system that requires money to maintain it - the water could not have flowed to that hydrant port if the city did not maintain the distribution system (at a cost)!

Conversely, if you’re estimating the costs of water that is flowed from hydrants during conventional flushing methods - again you are purging water out of hydrants connected to the distribution system that you’re paying to maintain - you’re not flushing directly from the purchase water inlet (or well heads)!
This understanding of water costs should be applied to water loss from other areas that are reported - for example, water lost from leaks in the distribution system should not be predicated on purchased water costs; unless the leak is at the joint where the purchase water inlet is connected. Your customer’s water bill has to cover "all" of the incurred costs to deliver the water; otherwise you could not make any profit! When NO-DES saves the water, it also saves the energy and all other costs to deliver that water to the hydrant being flushed!

You could take the yearly gross amount of revenue received by the city to operate and deliver water (minus any profits), then divide the total costs by the amount of water delivered (in million gallons) - this would give you the actual price to deliver one million gallons of water; and would be a fair number to plug into the equation when costing the saved water when using NO-DES. Or you could just use the price the customers pay for the water!

**Size of mains to be flushed** –

Most mains above 12" are considered transmission mains and normally maintain a flow significant enough to prevent particulates from settling.

Both uni-directional flushing and NO-DES flushing utilize hydrant ports (4" or 4-1/2" steamers, or 2-1/2") to flush. When uni-directional flushing you are dependent on the distribution pressure to force the water out of the hydrant; if you have an average pressure of 70 psi and are using the 4-1/2" port, you can only achieve approx 1,500 gpm (plus or minus 300 gpm) of flow. To achieve a 5 ft/sec velocity inside the target main, the 1,500 gpm limits you to a maximum of a 10" main (or a 12" main at 3 ft/sec)!

If someone is conventionally flushing a 20" main from a hydrant port, they can’t even achieve one ft/sec flow velocity inside the pipe. In reality they would only be dumping the water, not flushing/scouring the main. And if they needed to just dump the water, they could now use the NO-DES system to clean the water (filter and clean it), for any size main!

Because the NO-DES system utilizes a pump to circulate the water, we can achieve the flows required to flush a 12” main with our demo unit – and up to an 18” main with our new single vessel models.

**Cleaning the inside of the main** –

Most city crews don’t measure the flows from the hydrants when conducting Uni-direction flushing; it’s just a guess that the flow is significant enough to clean the inside walls of the main.

NO-DES has a flow meter in the control panel that allows the operator to achieve the exact flow required to accomplish the flush at the desired velocity (inside the main). We also use the patented “Reverse Flow Process” that directs the flush in the opposite direction of the normal distribution flow; creating better scouring/scrubbing of the inside walls of the main.

**Turbidity and Water Quality** -

Most city crews use a glass jar to visually inspect the flushed water, to determine the water quality and if enough flushing was performed. Because the water is being pulled from other areas of the distribution system, there are always some remaining particulates in the water (always)...

NO-DES utilizes two turbidity meters to analyze the water to exact standards, which determines when the flushing process is complete! Because the NO-DES process only flushes the section of main that’s located between the connected hydrants; the finished water quality is always perfect (below 1 NTU), and no other parts of the distribution system are effected in any way! This equates to “NO COMPLAINTS”…
**Water Loss – Water Saved –**

There’s no comparison with NO-DES when it comes to saving water! Conventional flushing wastes untold millions upon millions of gallons of water each year – NO-DES only spills the amounts left in the hose after shutdown (a couple hundred gallons!)

When conventional flushing to waste, city crews have to comply with NPDES regulations (de-chlorinating, sand bags, storm drain filters, etc.). And for some reason the ammonia remaining in the water is allowed to pollute our rivers and lakes!

Because NO-DES spills less than 1,000 gallons each flush; no NPDES issues are required.

**Water Hammer and other Hydraulic damages –**

During conventional flushing, the opening and closing of the hydrants cause lots of damage to the distribution system from water hammer. Another aspect of hydraulic damage is created when the crews open the hydrant full open when flushing smaller mains.

When operating dry barrel hydrants, if the hydrant is not opened to the full open position, the drain hole at the bottom of the bury will allow high pressure water to discharge and will cause damage to the environment around the hydrant installation.

If the main to be flushed has a cement lining and the velocity exceeds 5 ft/sec, the lining could be damaged.

Because NO-DES utilizes hydrant control valves, there is never a surge or hammer to the distribution system. The NO-DES variable speed pump does not cause any pressures surges to the distribution system (any time). And again the flow meter allows the operator to flush at exactly 3 or 5 ft/sec as desired.

**Production per day –**

The amount of main flushed per day can vary for both types of flushing methods. We have experienced the same results/amounts on most occasions, so it would be fair to call them equal for current measurement purposes. If a larger loop can be created by closing a main line valve located between the two connected hydrants; the NO-DES method of flushing can accomplish much more per day.

**Sensitive Areas (Damages) –**

Conventional flushing can cause property damage. NO-DES does not.

**Low Pressure Issues –**

Conventional flushing cause’s low pressure issues when the hydrant is opened to waste. NO-DES has no effect on the distribution pressures or flows.

**Valving –**

Conventional/uni-directional flushing requires lots of valving (lots of broken valves), and the possibility of leaving valves closed.
NO-DES flushing requires almost no valving at all – Sometimes to create a larger loop to flush, it becomes necessary to close one; but they are not required to close them off completely (or tightly), the valves only need to be taken down to the bottom to where it just touches.

Disinfection Issues –

NO-DES has the capability to inject disinfectant (very small quantities) – Uni-directional flushing methods cannot!

As you know, our NO-DES flushing technology has the ability to filter a small section of the distribution system water (down to 1 micron absolute) and then apply small concentrations of chlorine to boost the residuals. This works very well with our equipment because we are circulating the water thru our (equipment) which becomes an above ground loop of the distribution system itself! We are able to safely achieve mixing and contact time within the distribution system without affecting the customers (I don’t believe anyone has been able to achieve this within distribution systems before). One of our customers was flushing (to waste) large volumes of water because the chlorine component of their chloramine disinfectant would dissipate, leaving free ammonia, which in turn would speed up the nitrification process.

We discovered that we could measure the amounts of existing free ammonia in the area to be flushed (with our NO-DES flushing system) then add just enough chlorine to re-combine with the ammonia to reform more chloramines - This allowed them to save the water, improve the water quality and re-institute their chloramine residues! Because we also filter the water (again down to 1 micron absolute) thus removing the bio-films that were creating the problems; wham, the wasted water issue, the water quality issue, the residual issue, the nitrification issue and the customer complaint issues are all solved (and all at a lower cost).

Customer Complaints -

Most city’s have a section of their web site dedicated to explaining dirty water complaints for when crews are (conventionally) flushing. When using conventional flushing methods in the past, Hillsborough CA would see 10 to 15 customer complaints per flush – Since implementing their NO-DES flushing system they haven’t received one customer complaint!

P R –

When comparing NO-DES flushing to uni-direction flushing, we believe 100% of your customers will side with conserving water and improving the water quality; this is a no brainer! This is so simple:

Conventional Flushing Wastes the Water - The water and monies are lost forever!
NO-DES Flushing Saves the Water - So it pays for itself! And you can make money!

Calculating your Water Demand Offset Requirement (SCWD)

The WDO requirement for a new development is based on the District’s water use factor for the development type (e.g., single-family home, apartment, condominium, office, retail store, restaurant, etc.) and the size of the new development. For existing development projects undergoing a change in use where water use is expected to increase, WDO requirements for the new proposed use are calculated the same way as for a new development; however, credit is applied for the existing or greatest annual use since 2003. Therefore, the project is required to offset the difference in projected water demand between the existing use or former use and the proposed new use.
An offset multiplier of 1.6 is applied to the WDO requirement so that the applicant offsets 160 percent of the project’s projected water use. For planning purposes you can download the New Applicant Water Demand Offset Form to see how the WDO requirement is calculated.

To assure the WDO requirement is properly calculated for a given project, the project applicant must first contact the District and present the proposed building plans. At this time, a preliminary estimate of WDO requirements will be provided to the applicant.

Remember - when estimating the values of lost waters (flushed from hydrants), don't just use your cost to produce (from the water plant or wells), include all of the distribution costs (to maintain, labor, etc.) - You will not be flushing from a hydrant located at the outlet of the water plant or the well head!