

Fiscal Year 2024-25

ENGINEER'S REPORT

Irish Beach Water District



2024 Water System

Upgrade and Sustainability

Assessment

Pursuant to California Water Code sections 36550 et seq. and 37200 et seq., and Article XIID of the California Constitution

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Introduction

Overview

The Irish Beach Water District (“District”), established in 1967, provides a reliable water supply to the Irish Beach Sub-division in Manchester, California. Serving a small unincorporated community in Mendocino County, the District currently supplies water to approximately 204 developed parcels and is ready to extend services to the remaining 246 bare land parcels. Governed by a Board of Directors with four-year terms, the District is dedicated to high-quality water services and is engaged in infrastructure projects such as pipeline replacement, tank restoration, and well activation. The District ensures water quality compliance with federal and state regulations, offering annual water reports to the community. Day-to-day operations are overseen by a manager, with support from a team of part-time employees and administrative staff.

Figure 1 below illustrates the boundaries of the District.

Figure 1 – Irish Beach Water District Boundary Map

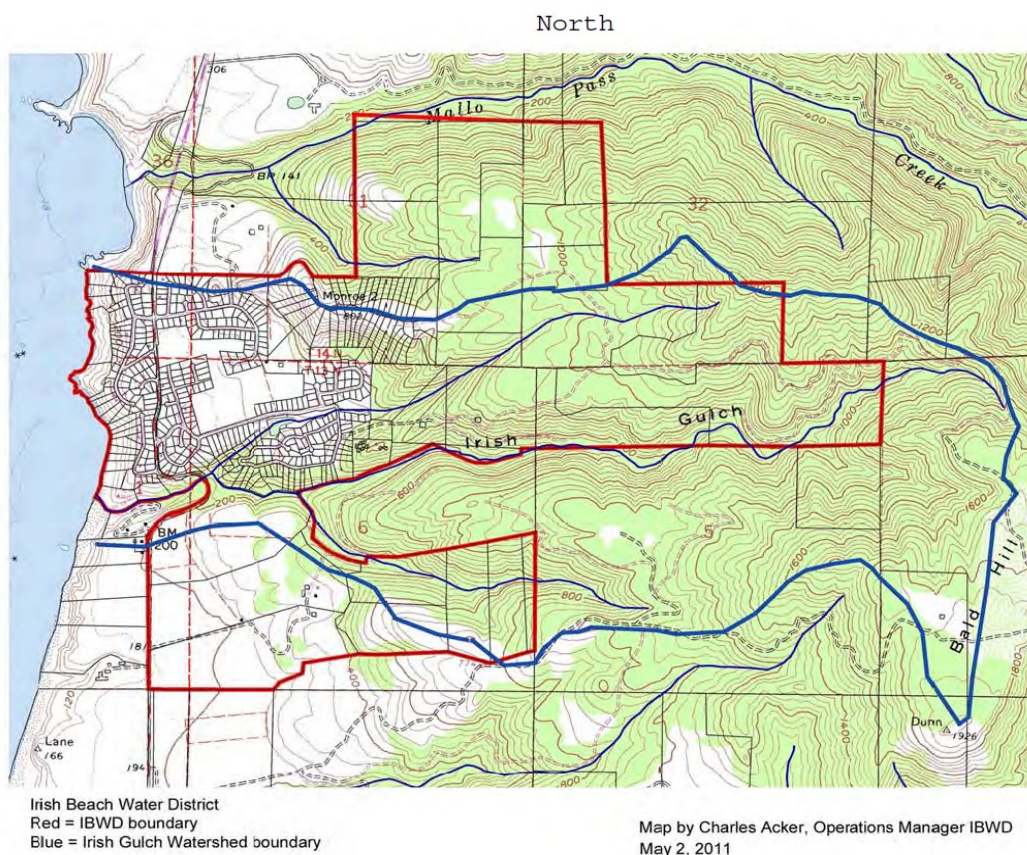
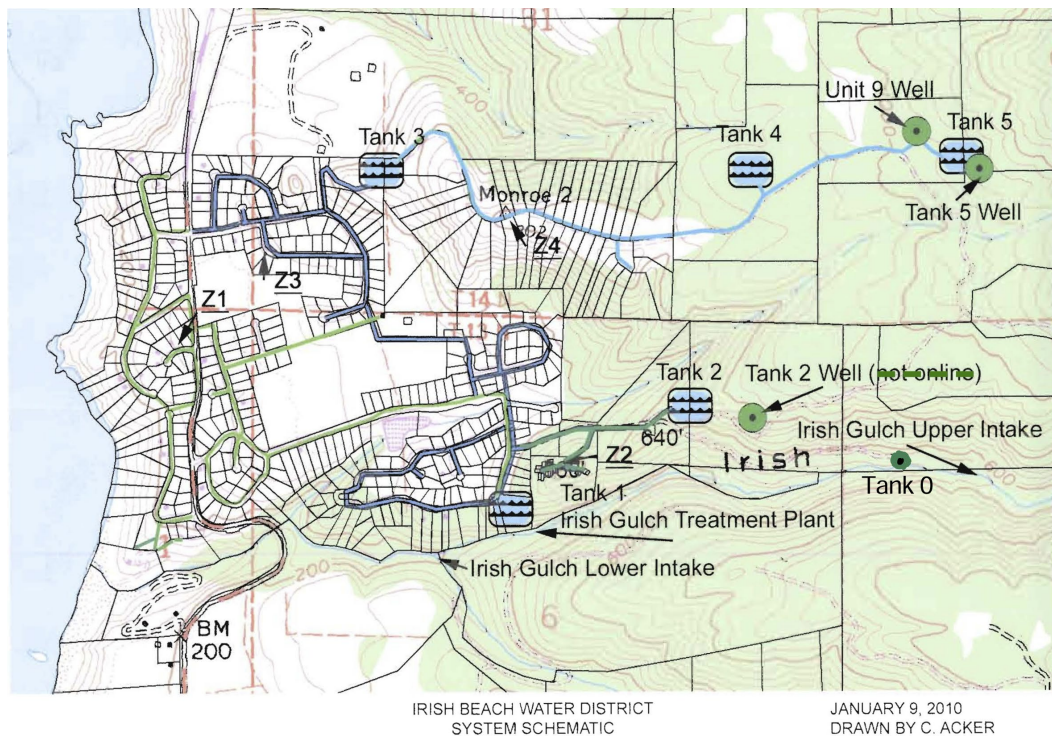


Figure 2 below illustrates the existing water system.

Figure 2 – Irish Beach Water District Water System



Current Revenue

The Irish Beach Water District generates revenue to support the water system through two primary sources: water service charges, connection fees, and, starting with the 2024-25 fiscal year, the 2002 Capital Replacement portion of the annual assessment collected on the property tax bills.

2002 Assessment

A special assessment approved by property owners in September 2002 included several components that provided funding for various purposes, including capital improvements. The Capital Replacement portion was collected from 2003 to 2017 but suspended due to litigation. Other components of the assessment: Mallo Pass, System-wide, and Loan Repayment, have concluded and will not be reinstated. On March 9, 2024, the Irish Beach Water District Board of Directors (“Board”) voted to reinstate the Capital Replacement portion of the assessment effective with fiscal year 2024-25.

Current Challenges

The District faces a backlog of deferred long-term maintenance and capital replacement of infrastructure, and many crucial components of its water system are nearing the end of their useful lifespan. Pipelines exceeding 50 years old urgently require upgrades and repairs. Additionally, rising costs for maintenance and replacement have increased, and recent regulatory changes have further increased the urgency for a new funding source.

In 2023, the District, recognizing the need for a comprehensive assessment of their potable water system, engaged Hazen & Sawyer, Water Quality and Supply Engineers. The subsequent assessment, utilizing the existing asset pipeline inventory, identified a capital improvement plan for the rehabilitation and replacements of potable pipes within the District over the next 25+ years, including the urgent replacement of over 3,000 feet of pipe and other infrastructure within 1-5 years. The complete Technical Memorandum from Hazen & Sawyer is available as Exhibit A.

The Irish Beach Water District’s current revenue is insufficient to meet long-term maintenance and capital replacement needs while also funding ongoing operations and routine maintenance. Consequently, the District has been forced to defer long-term maintenance and capital improvement projects. Revenue collected from the recently reinstated Capital Replacement portion of the 2002 Assessment will be helpful, but insufficient to meet all the District's critical infrastructure improvement needs.

Proposed Solution and Funding Strategy

To address the critical capital improvement needs and ensure the District's long-term sustainability, the District proposes a new Proposition 218 assessment in 2024. This proposed, “2024 Water System Upgrade and Sustainability Assessment,” if approved by property owners, along with funds from the reinstated 2002 assessment (Capital Replacement) would provide a stable and reliable source of revenue for long-term capital improvement planning.

Therefore, this Engineer's Report ("Report") supports the Irish Beach Water District's proposed 2024 Water System Upgrade and Sustainability Assessment, including a cost-of-living increase provision, to provide additional funding for maintenance and services within the District's area into the future.

Assessment Process

This Engineer's Report establishes the budget for the maintenance and services to be undertaken by the District that will be funded by the proposed 2024 Water System Upgrade and Sustainability Assessment ("2024 Assessments") for Fiscal Year 2024-25 and also determines the benefits received from the maintenance and services by property within the District's boundary as well as the method of assessment apportionment to lots and parcels. This Report and the proposed assessments have been made pursuant to the California Water Code sections 36550 et seq. *and* 37200 et seq. and Article XIID of the California Constitution.

Following the submittal of this Report to the Irish Beach Water District Board of Directors ("Board") for preliminary approval, the Board may, by resolution, call for an assessment ballot proceeding and Public Hearing on the establishment of the Irish Beach Water District 2024 Assessments.

If the Board approves such resolution and calls for the mailing of notices and ballots, a notice of assessment and assessment ballot will be mailed to property owners at least 45 days prior to the date of the Public Hearing set by the Board. Such notice would include a description of the assessments as well as an explanation of the method of voting on the assessments. Each notice would include a ballot on which the property owner could mark his or her approval or disapproval of the assessments and a ballot return envelope.

After the ballots are mailed to property owners, a minimum 45-day time period must be provided for the return of the assessment ballots. Following this 45-day time period, a public hearing must be held for the purpose of allowing public testimony regarding the proposed assessments and services. At this hearing, the public would have the opportunity to provide input on this issue and would have a final opportunity to submit ballots. After the conclusion of the public input portion of the hearing, the hearing may be continued to a later time to allow time for the tabulation of ballots.

With the passage of Proposition 218 on November 6, 1996, The Right to Vote on Taxes Act, now Article XIIC and XIID of the California Constitution, the proposed assessments can be levied for Fiscal Year 2024-25 and future years, only if the ballots submitted in favor of the assessments are greater than the ballots submitted in opposition to the assessments. (Each ballot is weighted by the amount of proposed assessment for the property that it represents).

If it is determined, when the tabulation results are announced, that the assessment ballots submitted in opposition to the proposed assessments do not exceed the assessment ballots submitted in favor of the assessments (weighted by the proportional financial obligation of the property for which ballots are submitted) the Board may take action, by resolution, to approve the levy of the assessments for Fiscal Year 2024-25 and future fiscal years. If the assessments are confirmed and approved, the District will mail invoices for Fiscal Year 2024-25 to the affected property owners. In subsequent fiscal years, the levies will be submitted to the Mendocino County Auditor for inclusion on the property tax rolls.

The procedures for levy of the assessments in future years will commence with the creation of a budget for the upcoming fiscal year's long-term maintenance and upgrade costs and services, and an updated assessment roll listing all parcels and their proposed assessments for the upcoming fiscal year. At the annual public meeting, members of the public may provide input to the Board prior to the Board's decision on continuing the services and assessments for the next fiscal year.

Legislative Analysis of Proposition 218

The proposed assessment complies with Proposition 218, The Right to Vote on Taxes Act, which was approved by the voters of California on November 6, 1996, and is now Articles XIIC and XIID of the California Constitution. Proposition 218 provides for benefit assessments to be levied to fund the cost of providing services, improvements, as well as maintenance and operation expenses of a public improvement that provides a special benefit to the assessed property.

Proposition 218 imposes a number of important requirements, including property-owner balloting, for the formation and continuation of assessments, and these requirements are satisfied by the process used to establish this assessment.

Silicon Valley Taxpayers Association, Inc. v Santa Clara County Open Space District (2008) 44 Cal.4th 431

On July 14, 2008, the California Supreme Court issued its ruling in *Silicon Valley Taxpayers Association, Inc. v. Santa Clara County Open Space District* (“Silicon Valley”). Several of the most important elements of the ruling are:

- Benefit assessments are for special, not general benefit.
- The services and/or improvements funded by assessments must be clearly defined.
- Special benefits are directly received by and provide a direct advantage to property in the Assessment District

Dahms v. Downtown Pomona Property (2009) 174 Cal.App.4th 708

On June 8, 2009, the Court of Appeal amended its original opinion upholding a benefit assessment for property in the downtown area of the City of Pomona. On July 22, 2009, the California Supreme Court granted review and transferred the case back to the Court of Appeal for reconsideration in light of the Supreme Court’s discussion in the *Silicon Valley* case. In *Dahms*, the Appellate Court then upheld the assessment that was 100% special benefit (i.e., 0% general benefit) holding that the services and improvements funded by the assessments were directly provided to property in the assessment District. The Court also upheld discounts and exemptions from the assessment for certain properties.

Bonander v. Town of Tiburon (2009) 46 Cal.4th 646

On December 31, 2009, the Court of Appeal overturned a benefit assessment approved by property owners to pay for placing overhead utility lines underground in an area of the Town of Tiburon. The Court invalidated the assessments on the grounds that the assessments had been apportioned to assessed property based in part on relative costs within sub-areas of the assessment district, instead of each individual property’s proportional special benefits.

Beutz v. County of Riverside (2010) 184 Cal.App.4th 1516

On May 26, 2010, the California Court of Appeal issued its decision in *Steven Beutz v. County of Riverside* (“Beutz”). This decision overturned an assessment for park maintenance in Wildomar, California, primarily because the general benefits associated with improvements and services were not explicitly calculated, quantified, and separated from the special benefits.

Golden Hill Neighborhood Association V. City of San Diego (2011) 199 Cal.App.4th 416

On September 22, 2011, California Court of Appeal issued its decision in *Golden Hill Neighborhood Association v. City of San Diego*. This decision overturned an assessment for street and landscaping maintenance in the Greater Golden Hill neighborhood of San Diego, California. The court described two primary reasons for its decision. First, as in *Beutz*, the court found the general benefits associated with services were not explicitly calculated, quantified and separated from the special benefits. Second, the court found that the City had failed to document the basis for the assessment on city-owned parcels.

Compliance with Current Law

This Engineer's Report is consistent with the requirements of Article XIIC and XIID of the California Constitution and with the *SVTA* decision because the assessments are for special, not general, benefit; the improvements to be funded are clearly defined; the improvements are directly available to and will directly benefit property in the District; and the improvements provide a direct advantage to property in the District that would not be received in absence of the Assessments.

This Engineer's Report is consistent with *Dahms* because, similar to the Downtown Pomona assessment validated in *Dahms*, the services will be directly provided to property in the District. Moreover, while *Dahms* could be used as the basis for a finding of 0% general benefits, this Engineer's Report establishes a more conservative measure of general benefits.

This Engineer's Report is consistent with *Beutz*, *Dahms*, and *Greater Golden Hill* because the improvements will directly benefit property in the District, and the general benefits have been explicitly calculated and quantified and excluded from the Assessments. The Engineer's Report is consistent with *Bonander* because the Assessments have been apportioned based on the overall cost of the improvements and proportional special benefit to each property.

Plans and Specifications

Description of the Improvements

The improvements undertaken by the District encompass the long-term maintenance, repair, improvement, upgrade and replacement of the District's water conveyance system (pipes, pumps, valves, connections, hydrants, etc.), water wells, and associated infrastructure including tanks, treatment facilities, electrical system, monitoring systems, etc. This includes obtaining, furnishing, and maintaining equipment; repairing and replacing all infrastructure and facilities pumps, motors, valves, appurtenances, pipelines, tanks, treatment facilities, etc.; constructing facilities; and purchasing and replacing tools, supplies and durable equipment, including vehicles, commonly used in system operations and infrastructure upgrades. These actions are required to maintain the District's ability to deliver water throughout the District. Additionally, the improvements involve retaining and paying personnel to keep the system operable, obtaining legal and financial support to ensure the District stays in compliance with its legal and financial obligations, and covering other related fixed costs (collectively, the "Improvements").

A thorough review of existing conditions, alongside current engineering industry standards, has identified that specific tanks—Tank 0, Tank 1, Tank 3, and Tank 4, which have useful lives spanning 30 to 60 years—require targeted improvements to continue providing safe and reliable drinking water to properties within the District. For instance, Tank 0 has numerous cracks, and the roof has limited strength, rendering it vulnerable to contaminants. Tank 3, a bolted steel tank acquired in 2010, shows significant coating damage and requires a recoating with a specialized two-part paint to prevent deterioration. Similarly, Tank 1, also a bolted steel tank purchased in 2013, needs a comparable exterior recoating to maintain its structural integrity and functionality. Tank 4, in use since 1989, now faces critical vulnerabilities due to a deteriorating wooden truss structure over the tank, compounded by carpenter ant and termite infestations that risk contamination. It is cost-effective and necessary to replace this tank entirely to avoid potential health risks.

The Improvements to be provided by the District and the cost thereof paid from the levy of the annual assessment provide special benefit to assessor parcels within the District as defined in the Method of Assessment herein.

The District's planned and budgeted capital improvement activities may require adjustment, elimination, increase, or decrease in response to any or all the following circumstances:

- Unforeseen water system facility site conditions.

- Changes in State and Federal standards and regulations.
- Changes in water system maintenance and improvement requirements, and/or
- Estimated construction costs and District budget/cash flow constraints.

Capital improvement costs include costs associated with capital expenditures made by the District. While future grant programs may be available, the Board of Directors may exercise their discretion to use such funding to accelerate completion of the proposed capital improvement program. The Board of Directors has the discretion to select which Improvements are prioritized and initiated, as well as deciding whether to fund Improvements through grant funding, cash flow, application of assessment revenue, loans that may be repaid with assessment funds, or a combination of funding sources to accelerate project initiation.

The Improvements are not merely operational; they are necessary for maintaining the integrity and reliability of the water distribution system, ensuring the ability to deliver water seamlessly across the District. Well-maintained and efficiently operating above-ground facilities like tanks and treatment systems are critical to the community. They ensure the continued availability of safe drinking water—a fundamental public health necessity.

Definitions

As applied herein, “Installation” means the construction of Improvements, including, but not limited to, geotechnical engineering and land preparation for water systems, water conveyance systems such as pipelines, site lighting and security systems, including all appurtenances.

“Maintenance” means furnishing services and materials for the ordinary and usual maintenance, operation, and servicing of any Improvement, including repair, removal, or replacement of all or any part of any Improvement and providing for the smooth and reliable operations of the District.

“Servicing” means furnishing electric current, energy, gas, or other illuminating agents for powering or operating equipment.

“Incidental expenses” include all of the following: (a) The costs of preparation of the Report, including plans, specifications, estimates, and assessment; (b) the costs of printing, advertising, and the giving of published, posted, and mailed notices; (c) compensation of any engineer or attorney employed to render services in proceedings pursuant to this part; (d) any other expenses incidental to the construction, installation, or maintenance and servicing of the Improvements; (e) any expenses incidental to the issuance of bonds or notes pursuant to Streets & Highways Code Section 22662.5.

Assessment proceeds may be used for the Improvements within the District plus incidental expenses.

Interpretation of the Report and Assessments will be the duty of the District's treasurer. Interpretation includes discretion regarding the timing and priority of projects, modifications of projects, evaluation of incidental expenses, etc.

Estimate of Cost and Budget

The District is looking to implement a Capital Improvement Program with projects in the near term (1-5 years), mid-term (6-25 years), and long term (25+ years) planning horizon. Below is a list of currently anticipated projects totaling approximately \$4 million that will be covered with the proposed 2024 Assessment.

Table 1, on the following page, summarizes the long-term maintenance and capital improvement needs currently identified. It should be noted that this list is tentative, in that as other long-term maintenance and capital improvement needs become apparent, the Board of Directors will prioritize work to be performed in the best interest of maintaining a functional, dependable, and efficient water system.

Table 1 – Proposed Improvements

Time-frame	Quantity	Description	Acquisition Date, FY	Estimated Useful Life	Estimated Replacement Cost	Comments
Short	1 Ea.	Tank 3 - 84,000 gal - Bolted Steel on Concrete	2010	30-60	\$29,604	Bolted steel tank showing areas of coating damage. Special 2- part paint. exterior needs recoating.
Short	1,470 LF	6" PVC Pipeline , Valves & Connections	1978	40	\$266,592	O'Rorey's along North side of Pomo - South from O'Rorey's loop replacement, across Pomo Creek to Pump Station A at the bottom of Hillcrest. High risk - H&S recommendations.
Short	1 Ea.	Tank 4 - 125,000 Concrete Tank	1989	30-60	\$266,936	Wooden truss structure over tank: deteriorating roof & siding, carpenter ant & termite infestation rendering tank vulnerable to contamination. Cost effective to replace tank.
Short	Various	Water Treatment Plant Filters & Equipment	1985	10-15	\$91,292	Replaced failing parts as urgent repairs needed. Entire water plant filter assembly is showing age and needs replacement.
Mid	1,327 LF	6" PVC Pipeline , Valves & Connections	1978	40	\$441,082	From U5 to Hunolt - thin wall, glue joint, PVC through open space field. High risk - H&S recommendations.
Mid	1 Ea.	New Well A - Easement & Wellhead (Location TBD - connect to existing tank)	New	25-35	\$100,136	Expand system capacity to support build-out.
Mid	1 Ea.	Tank 1 - 210,000 gal - Bolted Steel on Concrete	2013	30-60	\$41,537	Bolted steel tank exterior will need recoating. Special 2- part paint.
Mid	1,200 LF	3" & 6" PVC Pipeline , Valves & Connections	1989	40	\$450,785	From Lot 3 to Tank T3 - deducted 250 LF replaced in Alta Mesa repaving project - remaining pipeline is glued joints and prone to failure. High risk - H&S recommendations.
Mid	1 Ea.	New Well A - Electrical, controls, pipeline (Location TBD - connect to existing tank)	New	25-35	\$253,959	Expand system capacity to support build-out.
Mid	1 Ea.	New Well B - Easement & Wellhead (Location TBD - connect to new tank)	New	25-35	\$128,758	Expand system capacity to support build-out.
Mid	1 Ea.	New Well B - Electrical, controls, pipeline (Location TBD - connect to new tank)	New	25-35	\$272,741	Expand system capacity to support build-out.
Mid	1 Ea.	New Tank B - bolted steel on concrete (Location TBD - connect to new well)	New	30-60	\$525,834	Expand system capacity to support build-out.
Long	935 LF	4" & 6" PVC Pipeline , Valves & Connections	1978	40	\$360,541	Unit V - High risk - H&S recommendations.
Long	1,110 LF	6" PVC Pipeline , Valves & Connections	1989	40	\$721,012	Unit IX - High risk - H&S recommendations.

An estimate of District costs for Fiscal Year 2024-25 for maintenance and services is provided in Table 2 below.

Table 2 - Fiscal Year 2024-25 Estimate of Cost and Budget

IRISH BEACH WATER DISTRICT 2024 Water System Upgrade and Sustainability Assessment			
			Total Budget
Total Services and Operation Costs			\$85,278
Contribution from other sources to offset General Benefit requirement			<u>(\$8,528)</u>
Total Water System and Sustainability Improvements and Incidental Expenses (Net Amount to be Assessed)			\$76,750
Budget Allocation to Property			
	Total Units	Assessment per Unit	Total Assessment
Connected	204	\$258.00	\$52,632
Bare Lots	246	\$98.04	\$24,118
			\$76,750

Method of Assessment Apportionment

Method of Apportionment

This section of the Engineer's Report explains the benefits to be derived from the Improvements and the methodology used to apportion the total Assessment to properties within the District.

Pursuant to Proposition 218, the method used for apportioning the assessment is based upon the proportional special benefits conferred to the properties over and above the general benefits conferred to real property in the proposed Assessment District, or to the public at large. Special benefit is calculated for each parcel in the District using the following process:

- 1.) Identification of all benefit factors derived from the Improvements.
- 2.) Calculation of the proportion of these benefits that are general.
- 3.) Determination of the relative special benefit within different areas (zones of benefit) of the District
- 4.) Determination of the relative special benefit per property type
- 5.) Calculation of the specific assessment for each individual parcel based upon special vs. general benefit, zones, property type and other supporting attributes.

Discussion of Benefit

In summary, the Assessments can only be levied based on the special benefit to property. This benefit is received by property over and above any general benefits. Moreover, such benefit is not based on any one property owner's use of the District's services or a property owner's specific demographic status.

The formula below identifies the final level of service as the sum of the baseline level of service (without the proposed increase) and the enhanced level of service to be funded by the proposed Charges.

Final Level of Service	=	Baseline Level of Service	+	Enhanced Level of Service
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The services to be undertaken by the new formation of proposed 2024 Water System Upgrade and Sustainability Assessment, will provide special benefit to Assessor Parcels within the District as defined in the Method of Assessment herein.

Further, Proposition 218, as codified in Article XIID of the California Constitution, has confirmed that assessments must be based on the special benefit to property and that the value of the special benefits must exceed the cost of the assessment:

"No assessment shall be imposed on any parcel which exceeds the reasonable cost of the proportional special benefit conferred on that parcel."

Benefit Factors

The benefit factors from the Improvements are further detailed below:

Proximity and access to water service

Access to an adequate, reliable, and safe water supply significantly increases the utility, usefulness, functionality and ability to support residence of a parcel well over and above a parcel without access to water. Further, the proposed Improvements which would be over and above the baseline level, will result in the water supply being maintained to a much higher standard.

Only the specific properties within close proximity to the Improvements are included in the District. And because the water service infrastructure connects with particular identifiable parcels, the benefits are provided directly to the District parcels, and to none other.

Hence, the proposed Improvements provide the specific benefit of water access to the assessed parcels, both connected and potentially connected (i.e., bare land).

Improved protection from fire

Fire protection relies on a reliable water system for active fire suppression. Also, safety improvements throughout the service area reduce the risk of fires spreading from one property to another, ultimately safeguarding everyone.

Hence, the proposed Improvements provide the specific benefit of improved protection from fire to the assessed parcels, both connected and potentially connected (i.e., bare land).

Protection of groundwater supply

The Improvements will protect and improve the sustainability of the underlying groundwater resources which provide multiple benefits to parcels, including current and future access to water supply.

Hence, the proposed Improvements provide the specific benefit of protection of groundwater for current and future use. to the assessed parcels, both connected and potentially connected (i.e., bare land).

Creation of Individual Lots that, in Absence of the Assessments, Would Not Have Been Created

In the absence of the water system, the lots within most of the District would not have been created.

Hence, the proposed Improvements provide the specific benefit of the creation of the parcels themselves to the assessed parcels, both connected and potentially connected (i.e., bare land).

General versus Special Benefit

Article XIID of the California Constitution requires any local agency proposing to increase or impose a benefit assessment to “separate the general benefits from the special benefits conferred on a parcel.” The rationale for separating special and general benefits is to ensure that property owners subject to the benefit assessment are not paying for general benefits. An assessment can fund special benefits but cannot fund general benefits. Accordingly, a separate estimate of the special and general benefit is given in this section.

In other words:

$$\text{Total Benefit} = \text{General Benefit} + \text{Special Benefit}$$

There is no widely accepted or statutory formula for general benefit. General benefits are benefits from improvements or services that are not special in nature, are not “particular and distinct” and are not “over and above” benefits received by other properties. SVTA vs. SCCOSA provides some clarification by indicating that general benefits provide “an indirect, derivative advantage” and are not necessarily proximate to the Improvements.

In this Report, the general benefit is liberally estimated and described, and then budgeted so that it is funded by sources other than the Assessment.

The starting point for evaluating general and special benefits is the current, baseline level of service. The Assessment will fund improvements “over and above” this general, baseline level and the general benefits estimated in this section are over and above the baseline.

A formula to estimate the general benefit is listed below:

$$\text{General Benefit} = \text{Benefit to Real Property Outside the District} + \text{Benefit to Real Property Inside the District that is Indirect and Derivative} + \text{Benefit to the Public at Large}$$

Special benefit, on the other hand, is defined in the state constitution as “a particular and distinct benefit over and above general benefits conferred on real property located in the district or to the public at large.” The SVTA v. SCCOSA decision indicates that a special benefit is conferred to a property if it “receives a direct advantage from the Improvement (e.g., proximity to a park).” In these Assessments, as noted, properties in the District have close and unique proximity, views and access to the Improvements and uniquely improved desirability from the Improvements and other properties and the public at large do not receive significant benefits because they do not have proximity, access, or views of the Improvements. Therefore, the overwhelming proportion of the benefits conferred to property is special and is only minimally received by property outside the Districts or the public at large.

Benefit Finding

Quantification of General Benefit

The *Beutz* decision indicates that general benefits associated with improvements and services must be explicitly calculated, quantified, and separated from the special benefits. The general benefit from the Services is liberally estimated and described in this section.

Benefit to Property Outside the District

Properties outside the District may be within close proximity to certain Improvements; however, none of those properties have access to the Improvements. Without access or a right to connect to the Services, their proximity provides no benefit. Therefore, benefit to property outside the District is found to be zero.

However, the Improvements may provide some minimal benefit to parcels outside the District in reduction of a potentially spreading wildland fire, as well as the shared protection of the groundwater resource. Therefore, this Report liberally assigns up to 5% general benefit to properties outside of the District.

Benefit to Property *Inside* the District that is *Indirect and Derivative*

The *SVTA* decision indicates there may be general benefit “conferred on real property located in the district” that is “indirect and derivative.” The primary example is the overall enhancement of property values within the District due to the Improvements. While it is true that the Improvements may increase the utility and desirability of the properties within the District, those qualities are unique to the individual properties with access and proximity. Property does not derive any indirect benefit from a neighboring property’s access and proximity to the Improvements. Therefore, the indirect and derivative benefit to properties inside the District is found to be zero.

Benefit To The Public At Large

The general benefit to the public at large can be estimated by the proportionate amount of time that the District’s Improvements are used and enjoyed by individuals who are not residents, employees, customers, or property owners. In this case, where the Improvements provide a source of reliable water to properties within the District, all benefits accrue to the individual properties within the District, and there is no benefit to the public at large.

However, members of the public including travelers through the Irish Beach community, not associated with any particular property, may benefit from the Improvements including fire safety, improved views from irrigated landscaping, etc.

Therefore, this Report liberally assigns up to 5% general benefit to the Public at Large.

Total General Benefits

Using a sum of these three measures of general benefit, we find that no more than 10% of the benefits conferred by the Improvements may be general in nature and should be funded by sources other than the assessment.

<p>General Benefit = 2% 5 % (Outside the District) + 0 % (Property within the District) + <u>5 %</u> (Public at Large) = 10% (Total General Benefit)</p>

The District's proposed total budget for the Improvements for fiscal year 2024-25 would be \$85,278. Of this total assessment budget amount, the District will contribute at least \$8,528, at least 10% of the total budget from sources other than this assessment.

Method of Assessment

As previously discussed, the proposed assessments will provide maintenance, replacement and repair of existing infrastructure that will clearly confer special benefits to properties in the District. In the process of determining the appropriate method of assessment, various alternatives were considered. For example, an assessment only for all residential improved property was considered but was determined to be inappropriate because non-residential improved, and vacant ("bare land") parcels also receive special benefits from the Assessments. On the other hand, a fixed or flat assessment for all properties of similar type was deemed to be inappropriate because properties without residents and therefore minimal water needs would be assessed the same as properties with residents who rely on daily water availability. Hence, the appropriate method of assessment should be based on the use of the property and the level of potential special benefit to property.

The primary step in apportioning assessments is to determine the relative special benefit for each property. This process involves determining the relative benefit received by each property in relation to a single-family home or, in other words, on the basis of Single-Family Equivalents (SFE). This SFE methodology is commonly used to distribute assessments in proportion to estimated special benefit and is generally recognized as providing the basis for a fair and appropriate distribution of assessments. For the purposes of this Engineer's Report, all properties are designated an SFE value, which is each property's relative benefit in relation to a single-family home on one parcel. In this case, the "benchmark" property is the single-family detached dwelling which is one Single Family Equivalent or one SFE.

Residential Properties

Residential properties in the District that contain a single-residential dwelling unit are assigned one Single-Family Equivalent or 1.0 SFE. Detached or attached houses and zero-lot line houses are included in this category of single-family residential property. If there is more than one single-family detached dwelling on a parcel, it will be charged one SFE per single-family detached dwelling.

Vacant "Bare Land" Properties

The benefit to undeveloped properties is determined to be proportional to the corresponding benefits for similar types of developed properties, but at a lower rate due to the lack of improvements on the property.

A measure of the benefits accruing to the underlying land is the average value of land in relation to improvements for developed property. An analysis of the assessed valuation data from rural Mendocino County found that approximately 38% of the assessed value of improved properties is classified as the land value. It is reasonable to assume, therefore, that approximately 38% of the benefits are related to the underlying land and 62% are related to the improvements and the day-to-day use of the property. Using this ratio, the SFE factor for vacant/undeveloped parcels is 0.38 per parcel.

Other Properties

Article XIID stipulates that publicly owned properties must be assessed unless there is clear and convincing evidence that those properties receive no special benefit from the assessment.

All properties that are specially benefited are assessed. Other publicly owned property that is used for purposes similar to private residential, commercial, industrial, or institutional uses is benefited and assessed at the same rate as such privately owned property.

Certain miscellaneous, public right-of-way parcels, timber, well, reservoir or other water rights parcels, limited access open space parcels, watershed parcels and common area parcels typically do not receive special benefit from the Improvements and are not assessed.

Certain non-residential but developed parcels receive special benefit from the Improvements and may be assessed accordingly.

Annual Cost Adjustments

The assessment is subject to an annual adjustment tied to the annual change in the Engineering News Record Construction Cost Index 20-city average (ENR-CCI) as of January of each succeeding year (the CPI), with the maximum annual adjustment not to exceed 4%. In the event that the actual assessment rate for any given year is not increased by an amount equal to the maximum of 4%, the maximum authorized assessment rate shall increase by this amount. In such an event, the maximum authorized assessment amount shall be equal to the base year assessment as adjusted by the increase to the ENR-CCI, plus any and all ENR-CCI adjustments deferred in any and all prior years. The ENR-CCI change above 4% can be used in a future year when the ENR-CCI adjustment is below 4%.

Criteria and Policies

Parcel Changes

The District is responsible for a parcel-by-parcel analysis, to determine the special benefit and assessment amount for each parcel in the proposed Assessment. Each year, the District will re-analyze and re-calculate individual benefits and corresponding assessments for each parcel, incorporating parcel splits and combinations, initiation of development, etc. The District shall use the property tax assessment data obtained from the County of Mendocino, as well as requests for connection to the water system as the basis for recalculation.

Duration of Assessment

If approved by property owners in an assessment ballot proceeding conducted pursuant to the Article and California Water Code sections 36550 et seq. *and* 37200 et seq., the assessments can be levied annually commencing with fiscal year 2024-25 and continuing each year at the discretion of the District Board.

Exemptions

All properties that are specially benefited are assessed the annual assessment. Public right-of-way parcels or other lots or parcels that the Engineer of Work has determined cannot reasonably need the District's service and are not specially benefited are not charged. In the event that extenuating conditions exist such that a parcel cannot or will not benefit from the Improvements, the District Board may grant an exemption or deferral of the assessment.

Appeals of Assessments Levied to Property

Any property owner who feels that the assessment levied on the subject property is in error due to incorrect information being used to apply the foregoing method of assessment may file a written appeal with the Irish Beach Water District Board of Directors. Any such appeal is limited to correcting the assessment during the then-current fiscal year and applicable law. Upon filing any such appeal, the Board or their designee will promptly review the appeal and any information provided by the property owner. If the Board or their designee finds that the assessment should be modified, the appropriate changes shall be made. Any decision of the Board shall be final.

Assessment Funds Must Be Expended Within the District

After incidental, administrative, financing, and other costs, the net available funds generated by the assessment shall be expended exclusively for Improvements within the boundaries of the District or as described herein and appropriate incidental and administrative costs as defined in the Description of Improvements section.

Assessment Statement

WHEREAS, the Board of Directors of the Irish Beach Water District retained SCI Consulting Group to prepare this Engineer’s Report for the District’s Assessment District under the California Water Code sections 36550 et seq. and 37200 et seq., (the “Act”) and Article XIID of the California Constitution (the “Article”) and to proceed with the proposed levy of a new annual assessment; and

WHEREAS, SCI Consulting Group was retained as Engineer of Work to prepare and file an Engineer’s Report presenting an estimate of costs, the estimated costs of the Improvements upon assessable parcels within the District, and a description of said Improvements therein contained; reference is hereby made for further particulars.

NOW, THEREFORE, the undersigned, by virtue of the power vested in me under Article XIID of the California Constitution, other supporting state code, and the order of the Irish Beach Water District Board of Directors, hereby makes the following 2024 Assessments to cover the portion of the estimated cost of installation, maintenance, and servicing of the Improvements, and the costs and expenses incidental thereto to be paid by the District.

The amount to be paid for said Improvements and the expense incidental thereto, to be paid by the District for Fiscal Year 2024-25 is generally as follows:

Table 3 – Summary of Combined Cost Estimate

Budget Summary	
Costs	\$85,278
<i>Revenues from other Sources</i>	<i>(\$8,528)</i>
Net amount to assessment	\$76,750

As required by the Act, an Assessment Diagram showing the exterior boundaries of the District is hereto attached and incorporated herein by reference. The distinctive number of each parcel or lot of land in the District is its Assessor Parcel Number appearing on the Assessment Roll.

I do hereby assess and apportion the net amount of the cost and expenses of the Improvements, including the costs and expenses incident thereto, upon the parcels and lots of land within the District, in accordance with the special benefits to be received by each parcel or lot, from the Improvements, and more particularly set forth in the Estimate of Cost and Method of Assessment in the Report.

The annual assessment is made upon the parcels or lots of land within the District in proportion to the special benefits to be received by the parcels or lots of land, from the Improvements.

The assessment is subject to an annual adjustment tied to the annual change in the Engineering News Record Construction Cost Index 20-city average (ENR-CCI) as of January of each succeeding year (the CPI), with the maximum annual adjustment not to exceed 4%. In the event that the actual assessment rate for any given year is not increased by an amount equal to the maximum of 4%, the maximum authorized assessment rate shall increase by this amount. In such an event, the maximum authorized assessment amount shall be equal to the base year assessment as adjusted by the increase to the ENR-CCI, plus any and all ENR-CCI adjustments deferred in any and all prior years. The ENR-CCI change above 4% can be used in a future year when the ENR-CCI adjustment is below 4%.

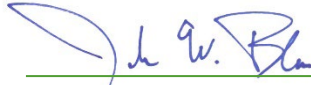
Each parcel or lot of land is described in the Assessment Roll by reference to its parcel number as will be shown on the Assessor's Maps of the County of Mendocino for Fiscal Year 2024-25. For a more particular description of the property, reference is hereby made to the deeds and maps on file and of record in the office of the County Recorder of the County.

I hereby will place opposite the Assessor Parcel Number for each parcel or lot within the Assessment Roll, the amount of the annual assessment for Fiscal Year 2024-25 for each parcel or lot of land within the Irish Beach Water District 2024 Assessment District.

Dated: July 31, 2024

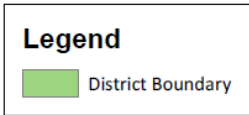
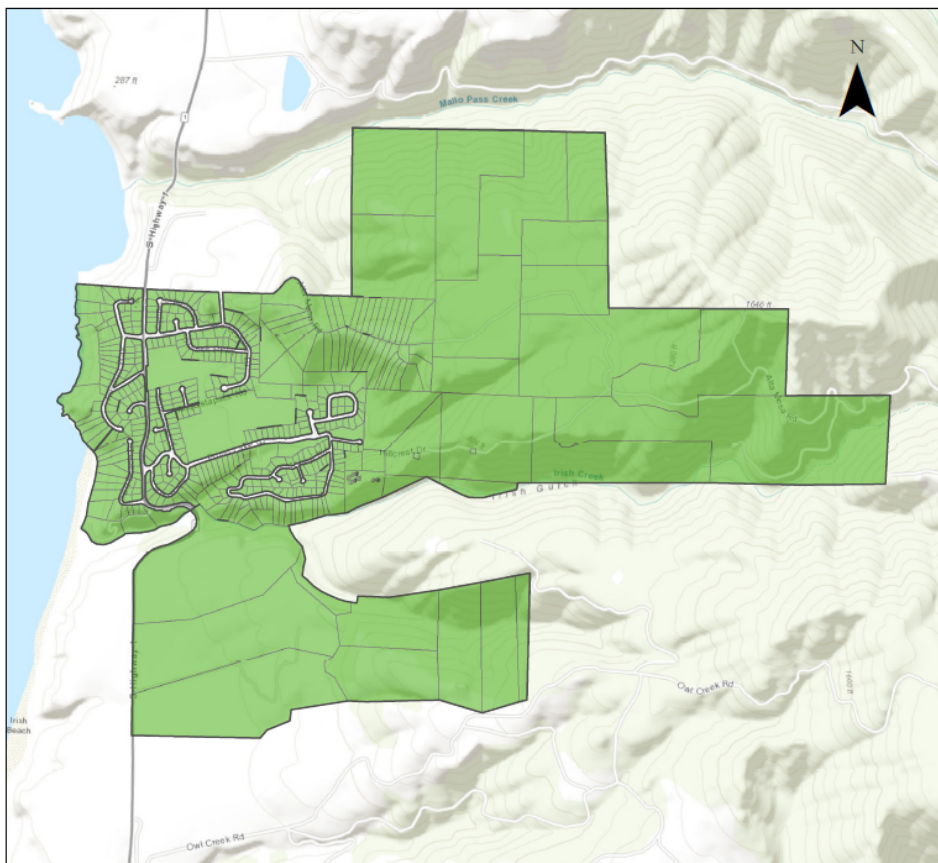
Engineer of Work



By  _____
John Bliss, P.E.
License No. C52091

Assessment Diagram

The parcels proposed to be assessed the 2024 Assessment are shown on the Assessment Diagram, which is on file with the Secretary of the Board of the Irish Beach Water District. The following Assessment Diagram is for general location only and is not to be considered the official boundary map. The lines and dimensions of each lot or parcel within the District are those lines and dimensions as shown on the maps of the Assessor of the County of Mendocino, for Fiscal Year 2024-25, and are incorporated herein by reference, and made a part of this Diagram and this Report.



PREPARED BY
 SCI CONSULTING GROUP
 4745 MANGELS BLVD
 FAIRFIELD, CA 94534
 707-430-4300

FILED IN THE OFFICE OF THE IRISH BEACH WATER DISTRICT,
 COUNTY OF MENDOCINO, CALIFORNIA, THIS _____ DAY
 OF _____, 20__.

 BOARD SECRETARY

RECORDED IN THE OFFICE OF THE IRISH BEACH WATER
 DISTRICT, COUNTY OF MENDOCINO, CALIFORNIA
 THIS _____ DAY OF _____, 20__.

 BOARD SECRETARY

AN ASSESSMENT WAS CONFIRMED AND LEVIED BY THE
 BOARD OF DIRECTORS OF IRISH BEACH WATER DISTRICT,
 ON THE LOTS, PIECES AND PARCELS OF LAND ON THIS
 ASSESSMENT DIAGRAM ON THE _____ DAY OF
 _____, 20__ FOR THE FISCAL YEAR AND
 SAID ASSESSMENT DIAGRAM AND THE ASSESSMENT ROLL
 FOR SAID FISCAL YEAR WERE FILED IN THE OFFICE OF THE
 COUNTY ASSESSOR OF THE COUNTY ASSESSOR OF THE
 COUNTY OF MENDOCINO ON THE _____ DAY OF
 _____, 20__.

REFERENCE IS HEREBY MADE TO SAID RECORDED
 ASSESSMENT ROLL FOR THE EXACT AMOUNT OF EACH
 ASSESSMENT LEVIED AGAINST EACH PARCEL OF LAND.

 BOARD SECRETARY

Note:
 REFERENCE IS HEREBY MADE TO THE MAPS AND DEEDS OF
 RECORD IN THE OFFICE OF THE ASSESSOR OF THE COUNTY
 OF MENDOCINO FOR A DETAILED DESCRIPTION OF
 THE LINES AND DIMENSIONS OF ANY PARCEL SHOWN
 HEREIN. THOSE MAPS SHALL GOVERN FOR ALL DETAILS
 CONCERNING THE LINES AND DIMENSIONS OF SUCH
 PARCELS. EACH PARCEL IS IDENTIFIED IN SAID MAPS BY
 ITS DISTINCTIVE ASSESSOR'S PARCEL NUMBER.

**IRISH BEACH WATER DISTRICT
 PROPOSED 2024 WATER SYSTEM UPGRADE
 AND SUSTAINABILITY ASSESSMENT DIAGRAM**

Assessment Roll

Each lot or parcel listed on the Assessment Roll is shown and illustrated on the latest County Assessor records, and these records are, by reference, made part of this Engineer's Report. These records shall govern all details concerning the description of the lots or parcels.

IRISH BEACH WATER DISTRICT
2024 Water System Upgrade and Sustainability Assessment
Preliminary Report for Fiscal Year 2024-25
Parcels for Secured Property Tax Roll

Parcel Number	Property Address	Assessment	Parcel Number	Property Address	Assessment
1320100100	14756 NAVARRO WAY	\$ 98.04	1320301000	44000 NOYO WAY	\$ 258.00
1320100200	14766 NAVARRO WAY	\$ 258.00	1320301100	44001 NOYO WAY	\$ 258.00
1320100300	14776 NAVARRO WAY	\$ 258.00	1320301200	44021 NOYO WAY	\$ 98.04
1320100400	14780 NAVARRO WAY	\$ 258.00	1320301300	44041 NOYO WAY	\$ 258.00
1320100500	14770 NAVARRO WAY	\$ 98.04	1320301400	44061 NOYO WAY	\$ 98.04
1320100600	14760 NAVARRO WAY	\$ 258.00	1320301500	44081 NOYO WAY	\$ 98.04
1320100700	14750 NAVARRO WAY	\$ 98.04	1320301600	14901 NAVARRO WAY	\$ 98.04
1320100800	14740 NAVARRO WAY	\$ 258.00	1320301700	14921 NAVARRO WAY	\$ 258.00
1320100900	14730 NAVARRO WAY	\$ 98.04	1320301800	44050 GARCIA CT	\$ 98.04
1320101000	14720 NAVARRO WAY	\$ 98.04	1320301900	44020 GARCIA CT	\$ 258.00
1320101100	14700 NAVARRO WAY	\$ 98.04	1320302000	44000 GARCIA CT	\$ 258.00
1320101400	14701 NAVARRO WAY	\$ 98.04	1320302100	43980 GARCIA CT	\$ 98.04
1320101500	14721 NAVARRO WAY	\$ 258.00	1320400100	14940 NAVARRO WAY	\$ 258.00
1320101600	14751 NAVARRO WAY	\$ 98.04	1320400200	14950 NAVARRO WAY	\$ 258.00
1320101700	14761 NAVARRO WAY	\$ 98.04	1320400300	14960 NAVARRO WAY	\$ 258.00
1320101800	14720 HWY 1	\$ 258.00	1320400400	14970 NAVARRO WAY	\$ 258.00
1320101900	14771 NAVARRO WAY	\$ 258.00	1320400500	14980 NAVARRO WAY	\$ 258.00
1320102000	14781 NAVARRO WAY	\$ 98.04	1320400600	15000 NAVARRO WAY	\$ 258.00
1320102100	14750 HWY 1	\$ 98.04	1320400700	15020 NAVARRO WAY	\$ 258.00
1320102200		\$ 98.04	1320400800	15050 IRISH BEACH DR	\$ 258.00
1320200300	14790 NAVARRO WAY	\$ 98.04	1320400900	15100 IRISH BEACH DR	\$ 98.04
1320200400	14800 NAVARRO WAY	\$ 258.00	1320401000	15101 IRISH BEACH DR	\$ 258.00
1320200500	14820 NAVARRO WAY	\$ 258.00	1320401100	15075 IRISH BEACH DR	\$ 98.04
1320200600	14830 NAVARRO WAY	\$ 258.00	1320401200	15051 IRISH BEACH DR	\$ 98.04
1320200700	14840 NAVARRO WAY	\$ 258.00	1320401300	15025 NAVARRO WAY	\$ 98.04
1320200800	14850 NAVARRO WAY	\$ 258.00	1320401400	15001 NAVARRO WAY	\$ 258.00
1320200900	14791 NAVARRO WAY	\$ 258.00	1320401500	14981 NAVARRO WAY	\$ 258.00
1320201000	44000 NAVARRO WAY	\$ 258.00	1320401600	14961 NAVARRO WAY	\$ 258.00
1320201100	14801 NAVARRO WAY	\$ 258.00	1320401700	14941 NAVARRO WAY	\$ 258.00
1320201200	14800 HWY 1	\$ 258.00	1320402000	44101 GARCIA CT	\$ 98.04
1320201300	14821 NAVARRO WAY	\$ 98.04	1320402100	44151 GARCIA CT	\$ 258.00
1320201400	14820 HWY 1	\$ 258.00	1320402200	15000 GARCIA CT	\$ 98.04
1320201500	14841 NAVARRO WAY	\$ 258.00	1320402300	15020 HWY 1	\$ 258.00
1320201600	14850 HWY 1	\$ 98.04	1320402400	15040 HWY 1	\$ 258.00
1320201700	14851 NAVARRO WAY	\$ 258.00	1320402500	15060 HWY 1	\$ 98.04
1320201800	14810 HWY 1	\$ 258.00	1320402600	44070 GARCIA CT	\$ 258.00
1320201900	14854 NAVARRO WAY	\$ 98.04	1320402700	44100 GARCIA CT	\$ 98.04
1320202000	14796 NAVARRO WAY	\$ 98.04	1320500100	15120 IRISH BEACH DR	\$ 258.00
1320300100	14860 NAVARRO WAY	\$ 258.00	1320500200	15150 IRISH BEACH DR	\$ 258.00
1320300200	14870 NAVARRO WAY	\$ 258.00	1320500300	15170 IRISH BEACH DR	\$ 98.04
1320300300	14880 NAVARRO WAY	\$ 258.00	1320500500	15220 IRISH BEACH DR	\$ 258.00
1320300400	14900 NAVARRO WAY	\$ 258.00	1320500600	15230 IRISH BEACH DR	\$ 258.00
1320300500	14920 NAVARRO WAY	\$ 98.04	1320500700	15121 IRISH BEACH DR	\$ 258.00
1320300600	44070 NOYO WAY	\$ 258.00	1320500800	15141 IRISH BEACH DR	\$ 258.00
1320300700	14871 NAVARRO WAY	\$ 258.00	1320500900	15161 IRISH BEACH DR	\$ 98.04
1320300800	14861 NAVARRO WAY	\$ 258.00	1320501000	15181 IRISH BEACH DR	\$ 98.04
1320300900	44040 NOYO WAY	\$ 98.04	1320501100	15201 IRISH BEACH DR	\$ 98.04

IRISH BEACH WATER DISTRICT
2024 Water System Upgrade and Sustainability Assessment
Preliminary Report for Fiscal Year 2024-25
Parcels for Secured Property Tax Roll

Parcel Number	Property Address	Assessment	Parcel Number	Property Address	Assessment
1320501200	15200 HWY 1	\$ 98.04	1320740500	43901 SEA CYPRESS DR	\$ 258.00
1320501300	15225 IRISH BEACH DR	\$ 258.00	1320740600	43851 SEA CYPRESS DR	\$ 258.00
1320501400	15240 HWY 1	\$ 98.04	1320740700	43781 CYPRESS PKWY	\$ 258.00
1320501500	15251 IRISH BEACH DR	\$ 258.00	1320740800	43741 SEA CYPRESS DR	\$ 258.00
1320501600	15275 IRISH BEACH DR	\$ 98.04	1320740900	43771 SEA CYPRESS DR	\$ 98.04
1320600100	15360 IRISH BEACH DR	\$ 258.00	1320741000	43801 SEA CYPRESS DR	\$ 258.00
1320600200	15300 IRISH BEACH DR	\$ 258.00	1320741100	43750 CYPRESS PKWY	\$ 98.04
1320600300	15400 HWY 1	\$ 98.04	1320741200	43720 CYPRESS PKWY	\$ 98.04
1320600400	15280 IRISH BEACH DR	\$ 258.00	1320741300	43700 CYPRESS PKWY	\$ 258.00
1320600500	15270 IRISH BEACH DR	\$ 258.00	1320741400	43670 CYPRESS PKWY	\$ 98.04
1320600600	15260 IRISH BEACH DR	\$ 258.00	1320800100	43751 ALTA MESA RD	\$ 258.00
1320600700	15250 IRISH BEACH DR	\$ 258.00	1320800200	43680 SEA CYPRESS DR	\$ 98.04
1320600800	15240 IRISH BEACH DR	\$ 258.00	1320800300	43670 SEA CYPRESS DR	\$ 98.04
1320600900	15330 IRISH BEACH DR	\$ 258.00	1320800400	43660 SEA CYPRESS DR	\$ 98.04
1320710300	14760 CYPRESS POINT RD	\$ 258.00	1320800500	43650 SEA CYPRESS DR	\$ 98.04
1320710400	14750 CYPRESS POINT RD	\$ 258.00	1320800600	43640 SEA CYPRESS DR	\$ 98.04
1320710500	14740 CYPRESS POINT RD	\$ 98.04	1320800700	43620 SEA CYPRESS DR	\$ 98.04
1320710600	14720 CYPRESS POINT RD	\$ 98.04	1320800800	43610 SEA CYPRESS DR	\$ 98.04
1320710700	14700 CYPRESS POINT RD	\$ 258.00	1320801000	43701 SEA CYPRESS DR	\$ 98.04
1320710800	14680 CYPRESS POINT RD	\$ 258.00	1320801100	43651 SEA CYPRESS DR	\$ 258.00
1320710900	14660 CYPRESS POINT RD	\$ 258.00	1320801200	43625 SEA CYPRESS DR	\$ 98.04
1320711000	14640 CYPRESS POINT RD	\$ 258.00	1320801300	43601 SEA CYPRESS DR	\$ 98.04
1320711100	14770 CYPRESS POINT RD	\$ 258.00	1320801400	43620 CYPRESS PKWY	\$ 98.04
1320720100	14620 CYPRESS POINT RD	\$ 98.04	1320801500	43650 CYPRESS PKWY	\$ 98.04
1320720200	14610 CYPRESS POINT RD	\$ 98.04	1320900100	43580 SEA CYPRESS DR	\$ 98.04
1320720300	14600 CYPRESS POINT RD	\$ 258.00	1320900200	43560 SEA CYPRESS DR	\$ 98.04
1320720400	14570 CYPRESS POINT RD	\$ 258.00	1320900300	43575 SEA CYPRESS DR	\$ 98.04
1320720500	14560 CYPRESS POINT RD	\$ 98.04	1320900400	43601 CYPRESS PKWY	\$ 98.04
1320720600	43760 SEA CYPRESS DR	\$ 98.04	1320900500	43621 CYPRESS PKWY	\$ 98.04
1320720700	43730 SEA CYPRESS DR	\$ 98.04	1320900600	43641 CYPRESS PKWY	\$ 258.00
1320720800	43800 ALTA MESA RD	\$ 258.00	1320900700	43661 CYPRESS PKWY	\$ 258.00
1320720900	43750 ALTA MESA RD	\$ 258.00	1320900800	43681 CYPRESS PKWY	\$ 98.04
1320730100	14771 CYPRESS POINT RD	\$ 258.00	1320900900	43701 CYPRESS PKWY	\$ 98.04
1320730200	14765 CYPRESS POINT RD	\$ 98.04	1320901000	43711 CYPRESS PKWY	\$ 98.04
1320730300	14735 CYPRESS POINT RD	\$ 258.00	1320901100	43725 CYPRESS PKWY	\$ 98.04
1320730400	14655 CYPRESS POINT RD	\$ 258.00	1320901200	43751 CYPRESS PKWY	\$ 258.00
1320730500	14601 CYPRESS POINT RD	\$ 258.00	1320901300	43775 CYPRESS PKWY	\$ 98.04
1320730600	14565 CYPRESS POINT RD	\$ 258.00	1321000100	43601 ACQUISTAPACE RD	\$ 258.00
1320730700	14555 CYPRESS POINT RD	\$ 258.00	1321001100	44660 POMO LAKE DR	\$ 98.04
1320730800	14781 CYPRESS CIR	\$ 98.04	1321001200	44650 POMO LAKE DR	\$ 258.00
1320730900	14771 CYPRESS CIR	\$ 98.04	1321001300	44640 POMO LAKE DR	\$ 98.04
1320731000	14770 CYPRESS CIR	\$ 98.04	1321001400	44620 POMO LAKE DR	\$ 98.04
1320731100	14780 CYPRESS CIR	\$ 258.00	1321001500	43831 ACQUISTAPACE RD	\$ 98.04
1320740100	43981 SEA CYPRESS DR	\$ 258.00	1321001600	43811 ACQUISTAPACE RD	\$ 98.04
1320740200	43961 SEA CYPRESS DR	\$ 98.04	1321001700	43791 ACQUISTAPACE RD	\$ 98.04
1320740300	43941 SEA CYPRESS DR	\$ 98.04	1321001800	43781 ACQUISTAPACE RD	\$ 98.04
1320740400	43921 SEA CYPRESS DR	\$ 98.04	1321001900	43551 SEA CYPRESS DR	\$ 98.04

IRISH BEACH WATER DISTRICT
2024 Water System Upgrade and Sustainability Assessment
Preliminary Report for Fiscal Year 2024-25
Parcels for Secured Property Tax Roll

Parcel Number	Property Address	Assessment	Parcel Number	Property Address	Assessment
1321002000	43541 SEA CYPRESS DR	\$ 98.04	1321200600	44901 ARENA CIR	\$ 258.00
1321002100	43511 SEA CYPRESS DR	\$ 98.04	1321200700	44881 ARENA CIR	\$ 258.00
1321002200	43491 SEA CYPRESS DR	\$ 98.04	1321200800	44861 ARENA CIR	\$ 258.00
1321002300	43481 SEA CYPRESS DR	\$ 98.04	1321200900	44851 ARENA CIR	\$ 258.00
1321002400	43471 SEA CYPRESS DR	\$ 98.04	1321201000	44841 ARENA CIR	\$ 98.04
1321002500	43470 SEA CYPRESS DR	\$ 98.04	1321201100	44821 ARENA CIR	\$ 98.04
1321002600	43480 SEA CYPRESS DR	\$ 98.04	1321201200	44801 POMO LAKE DR	\$ 258.00
1321002700	43490 SEA CYPRESS DR	\$ 98.04	1321201300	44781 POMO LAKE DR	\$ 98.04
1321002800	43500 SEA CPYRESS DR	\$ 98.04	1321201400	44761 POMO LAKE DR	\$ 98.04
1321002900	43510 SEA CYPRESS DR	\$ 98.04	1321201500	44741 POMO LAKE DR	\$ 258.00
1321003000	43540 SEA CYPRESS DR	\$ 258.00	1321201600	44721 POMO LAKE DR	\$ 98.04
1321003100	43550 SEA CYPRESS DR	\$ 98.04	1321201700	44701 POMO LAKE DR	\$ 98.04
1321003200	44480 OROREYS PL	\$ 98.04	1321201800	44681 POMO LAKE DR	\$ 98.04
1321003300	44485 OROREYS PL	\$ 98.04	1321201900	44821 POMO LAKE DR	\$ 258.00
1321003500	43731 ACQUISTAPACE RD	\$ 98.04	1321202000	44830 ARENA CIR	\$ 98.04
1321100100	43951 MALLO PASS CT	\$ 258.00	1321202100	44860 ARENA CIR	\$ 258.00
1321100200	43925 MALLO PASS CT	\$ 98.04	1321202200	44900 ARENA CIR	\$ 98.04
1321100300	3901 MALLO PASS CT	\$ 98.04	1321202300	44920 ARENA CIR	\$ 258.00
1321100400	15050 MALLO PASS DR	\$ 98.04	1321202400	44940 ARENA CIR	\$ 258.00
1321100500	43950 MALLO PASS CT	\$ 98.04	1321202500	44961 POMO LAKE DR	\$ 258.00
1321100600	15000 MALLO PASS DR	\$ 258.00	1321202600	44901 POMO LAKE DR	\$ 98.04
1321100700	14970 MALLO PASS DR	\$ 258.00	1321202700	15220 ARENA CT	\$ 98.04
1321100800	14950 MALLO PASS DR	\$ 258.00	1321202800	15250 ARENA CT	\$ 258.00
1321100900	14920 MALLO PASS DR	\$ 258.00	1321202900	15225 ARENA CT	\$ 258.00
1321101000	14900 MALLO PASS DR	\$ 258.00	1321203000	44851 POMO LAKE DR	\$ 98.04
1321101100	14901 MALLO PASS DR	\$ 258.00	1321203100	44900 POMO LAKE DR	\$ 98.04
1321101200	14925 MALLO PASS DR	\$ 98.04	1321203200	44920 POMO LAKE DR	\$ 258.00
1321101300	14951 MALLO PASS DR	\$ 258.00	1321203300	44940 POMO LAKE DR	\$ 98.04
1321101400	43850 ACQUISTAPACE RD	\$ 258.00	1321203400	44960 POMO LAKE DR	\$ 258.00
1321101500	43800 ACQUISTAPACE RD	\$ 98.04	1321203500	44980 POMO LAKE DR	\$ 258.00
1321101600	14950 EUCALYPTUS WAY	\$ 98.04	1321203600	15151 MALLO PASS DR	\$ 98.04
1321101700	14920 EUCALYPTUS WAY	\$ 98.04	1321203700	15175 MALLO PASS DR	\$ 98.04
1321101800	14900 EUCALYPTUS WAY	\$ 98.04	1321203800	44850 POMO LAKE DR	\$ 258.00
1321101900	14901 EUCALYPTUS WAY	\$ 98.04	1321203900	44800 POMO LAKE DR	\$ 98.04
1321102000	14925 EUCALYPTUS WAY	\$ 98.04	1321300100	44661 POMO LAKE DR	\$ 258.00
1321102100	14951 EUCALYPTUS WAY	\$ 98.04	1321300200	44651 POMO LAKE DR	\$ 98.04
1321102200	14975 EUCALYPTUS WAY	\$ 98.04	1321300300	44641 POMO LAKE DR	\$ 258.00
1321102300	43851 ACQUISTAPACE RD	\$ 258.00	1321300400	44621 POMO LAKE DR	\$ 258.00
1321102400	15031 MALLO PASS DR	\$ 258.00	1321300500	15731 FOREST VIEW RD	\$ 98.04
1321102500	15061 MALLO PASS DR	\$ 258.00	1321300600	15741 FOREST VIEW RD	\$ 258.00
1321102600	15101 MALLO PASS DR	\$ 98.04	1321300700	15751 FOREST VIEW RD	\$ 98.04
1321102700	15125 MALLO PASS DR	\$ 258.00	1321300800	15761 FOREST VIEW RD	\$ 258.00
1321200100	44981 POMO LAKE DR	\$ 258.00	1321301000	15801 FOREST VIEW RD	\$ 98.04
1321200200	44961 ARENA CIR	\$ 258.00	1321410200	15871 FOREST VIEW RD	\$ 258.00
1321200300	44951 ARENA CIR	\$ 98.04	1321410300	15901 FOREST VIEW RD	\$ 258.00
1321200400	44941 ARENA CIR	\$ 258.00	1321410400	15921 FOREST VIEW RD	\$ 258.00
1321200500	44921 ARENA CIR	\$ 98.04	1321410500	15931 FOREST VIEW RD	\$ 98.04

IRISH BEACH WATER DISTRICT
2024 Water System Upgrade and Sustainability Assessment
Preliminary Report for Fiscal Year 2024-25
Parcels for Secured Property Tax Roll

Parcel Number	Property Address	Assessment	Parcel Number	Property Address	Assessment
1321410600	15941 FOREST VIEW RD	\$ 98.04	1321610200	15370 FOREST VIEW RD	\$ 258.00
1321410700	15961 FOREST VIEW RD	\$ 98.04	1321610300	15400 FOREST VIEW RD	\$ 98.04
1321410800	15971 FOREST VIEW RD	\$ 98.04	1321610400	15420 FOREST VIEW RD	\$ 98.04
1321410900	44451 POMO LAKE DR	\$ 98.04	1321610500	15450 FOREST VIEW RD	\$ 98.04
1321411100	15851 FOREST VIEW RD	\$ 258.00	1321610600	15470 FOREST VIEW RD	\$ 258.00
1321420100	44381 POMO LAKE CIR	\$ 98.04	1321610700	15500 FOREST VIEW RD	\$ 98.04
1321420200	44361 POMO LAKE CIR	\$ 98.04	1321610800	15520 FOREST VIEW RD	\$ 258.00
1321420300	44341 POMO LAKE CIR	\$ 258.00	1321610900	15550 FOREST VIEW RD	\$ 258.00
1321420400	44321 POMO LAKE CIR	\$ 98.04	1321611000	15570 FOREST VIEW RD	\$ 258.00
1321420500	44301 POMO LAKE CIR	\$ 98.04	1321611100	15780 FOREST VIEW CT	\$ 258.00
1321420600	15225 FOREST VIEW RD	\$ 258.00	1321611200	15784 FOREST VIEW CT	\$ 98.04
1321420700	15251 FOREST VIEW RD	\$ 258.00	1321611300	15794 FOREST VIEW CT	\$ 98.04
1321420900		\$ 98.04	1321611400	15820 FOREST VIEW RD	\$ 98.04
1321421000	15300 FOREST VIEW RD	\$ 258.00	1321611500	15850 FOREST VIEW RD	\$ 98.04
1321421100	15320 FOREST VIEW RD	\$ 98.04	1321611600	15870 FOREST VIEW RD	\$ 98.04
1321421200	15700 FOREST VIEW CIR	\$ 258.00	1321611700	15684 FOREST VIEW CIR	\$ 258.00
1321421300	15920 FOREST VIEW RD	\$ 98.04	1321611800	15688 FOREST VIEW CIR	\$ 98.04
1321421400	15930 FOREST VIEW RD	\$ 98.04	1321611900	15694 FOREST VIEW CIR	\$ 98.04
1321421500	15940 FOREST VIEW RD	\$ 98.04	1321612000	15698 FOREST VIEW CIR	\$ 98.04
1321421600	15960 FOREST VIEW RD	\$ 258.00	1321620100	15321 FOREST VIEW RD	\$ 98.04
1321421700	15301 FOREST VIEW RD	\$ 98.04	1321620200	15341 FOREST VIEW RD	\$ 98.04
1321500100	15601 FOREST VIEW RD	\$ 258.00	1321620300	15361 FOREST VIEW RD	\$ 98.04
1321500200		\$ 98.04	1321620400	15381 FOREST VIEW RD	\$ 98.04
1321500300	15621 FOREST VIEW RD	\$ 258.00	1321620500	15421 FOREST VIEW RD	\$ 98.04
1321500400	15631 FOREST VIEW RD	\$ 258.00	1321620600	15431 FOREST VIEW RD	\$ 98.04
1321500500		\$ 98.04	1321620700	15441 FOREST VIEW RD	\$ 258.00
1321500600	15641 FOREST VIEW RD	\$ 98.04	1321621000	15481 FOREST VIEW RD	\$ 258.00
1321500700	15645 FOREST VIEW RD	\$ 258.00	1321621100	15501 FOREST VIEW RD	\$ 98.04
1321500800	15651 FOREST VIEW RD	\$ 258.00	1321621200	15525 FOREST VIEW RD	\$ 98.04
1321500900	15661 FOREST VIEW RD	\$ 258.00	1321621300	15551 FOREST VIEW RD	\$ 258.00
1321501000	15671 FOREST VIEW RD	\$ 258.00	1321621400	15575 FOREST VIEW RD	\$ 258.00
1321501100	15685 FOREST VIEW RD	\$ 258.00	1321621600	15461 FOREST VIEW RD	\$ 258.00
1321501200	15691 FOREST VIEW RD	\$ 258.00	1323000100	44600 POMO LAKE DR	\$ 258.00
1321501300	15687 FOREST VIEW RD	\$ 258.00	1323000200	44590 POMO LAKE DR	\$ 98.04
1321501400	15689 FOREST VIEW RD	\$ 98.04	1323000300	44580 POMO LAKE DR	\$ 98.04
1321501500	15697 FOREST VIEW RD	\$ 258.00	1323000400	44570 POMO LAKE DR	\$ 98.04
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1321502000	15620 FOREST VIEW RD	\$ 98.04	1323000700	44536 OROREYS PL	\$ 258.00
1321502100	15640 FOREST VIEW RD	\$ 258.00	1323000800	44530 OROREYS PL	\$ 98.04
1321502200	15700 FOREST VIEW RD	\$ 258.00	1323000900	44520 OROREYS PL	\$ 258.00
1321502300	15720 FOREST VIEW RD	\$ 98.04	1323001000	44510 OROREYS PL	\$ 98.04
1321502400	15740 FOREST VIEW RD	\$ 258.00	1323001200	44501 OROREYS PL	\$ 258.00
1321502500	15760 FOREST VIEW RD	\$ 98.04	1323001300	44465 OROREYS ROOST	\$ 258.00
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1321610100	15350 FOREST VIEW RD	\$ 98.04	1323001600	44300 OROREYS ROOST	\$ 98.04

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Parcels for Secured Property Tax Roll

Parcel Number	Property Address	Assessment	Parcel Number	Property Address	Assessment
1323001700	44310 OROREYS ROOST	\$ 98.04	1323202300		\$ 98.04
1323001800	44320 OROREYS ROOST	\$ 98.04	1323202400		\$ 98.04
1323002000	44340 OROREYS ROOST	\$ 258.00	1323202500		\$ 98.04
1323002200	44360 OROREYS ROOST	\$ 98.04	1323202600		\$ 98.04
1323002300	44370 OROREYS ROOST	\$ 258.00	1323202700		\$ 98.04
1323002400	44380 OROREYS ROOST	\$ 98.04	1323202800	43370 ALTA MESA RD	\$ 98.04
1323002500	44390 OROREYS ROOST	\$ 98.04	1323202900		\$ 98.04
1323002600	44400 OROREYS ROOST	\$ 258.00	1323203000		\$ 98.04
1323002700	44410 OROREYS ROOST	\$ 98.04	1323203100		\$ 98.04
1323002800	44420 OROREYS ROOST	\$ 258.00	1323203200		\$ 98.04
1323002900	44430 OROREYS ROOST	\$ 98.04	1323203300		\$ 98.04
1323003000	44440 OROREYS ROOST	\$ 258.00	1323203400		\$ 98.04
1323003100	44535 OROREYS PL	\$ 98.04	1323203500		\$ 98.04
1323003200	44460 OROREYS ROOST	\$ 98.04	1323203600		\$ 98.04
1323003300	44421 OROREYS ROOST	\$ 258.00	1323203700		\$ 98.04
1323003400	44301 OROREYS ROOST	\$ 258.00	1323203800		\$ 98.04
1323003500	44341 OROREYS ROOST	\$ 98.04	1323203900		\$ 98.04
1323003600	44361 OROREYS ROOST	\$ 98.04	1323204000	43600 ALTA MESA RD	\$ 258.00
1323003700	44381 OROREYS ROOST	\$ 98.04	1323204100		\$ 98.04
1323003800	44401 OROREYS ROOST	\$ 98.04	1323204200		\$ 98.04
1323003900	44500 OROREYS PL	\$ 258.00	1323204300	43586 SEA CYPRESS RD	\$ 98.04
1323100100	43501 HILLCREST DR	\$ 258.00	1323204400		\$ 98.04
1323100200	43501 HILLCREST DR	\$ 258.00	1323204500		\$ 98.04
1323100300	43501 HILLCREST DR	\$ 258.00	1323204600		\$ 98.04
1323100400	43501 HILLCREST DR	\$ 258.00	1323204700	44350 OROREYS ROOST	\$ 98.04
1323101500	43501 HILLCREST DR	\$ 258.00	1323204800	44330 OROREYS ROOST	\$ 98.04
1323101600	43501 HILLCREST DR	\$ 258.00	1323204900	43600 SEA CYPRESS DR	\$ 258.00
1323200100	43681 ALTA MESA RD	\$ 98.04			
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1323200500		\$ 98.04			
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1323201000		\$ 98.04			
1323201100		\$ 98.04			
1323201200		\$ 98.04			
1323201300	43491 ALTA MESA RD	\$ 258.00			
1323201400	43471 ALTA MESA RD	\$ 98.04			
1323201500		\$ 98.04			
1323201600		\$ 98.04			
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1323201900		\$ 98.04			
1323202000		\$ 98.04			
1323202100		\$ 98.04			
1323202200	14000 ALTA MESA CT	\$ 258.00			

Exhibit A – Pipeline Condition Assessment



Irish Beach Water District Pipeline Condition Assessment

Technical Memorandum

Friday, 07 June 2024

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1. Introduction

1.1. Background

Water utilities today face the substantial challenge of delivering requisite service levels despite constrained financial resources, amidst the backdrop of aging infrastructure, increasingly stringent regulatory standards, and escalating customer expectations. Historically, the Irish Beach Water District (the District) has predicated the condition of its potable water conveyance infrastructure based on the extent of preventive maintenance required within specific areas. Furthermore, planning for rehabilitation and replacement (R&R) of assets has traditionally relied on the institutional knowledge of staff and the chronological age of the assets.

In a strategic pivot, the District now intends to incorporate a risk-based framework for its approximately 57,238 feet (or 10.8 miles) of pipelines. This framework incorporates assessments of both the probability of failure (PoF) and the consequences of failure (CoF) to inform R&R decisions. To support this goal, Hazen has adopted cutting-edge tools and methodologies to strategically prioritize R&R activities for the District's potable water pipelines, thereby optimizing resource allocation to areas of greatest need.

1.2. Objective

A desktop risk-based condition assessment of the potable water system was conducted utilizing the existing asset pipeline inventory from the District. This initial analysis was enhanced by integrating pipe attribute data to help identify assets with a high risk of failure, thereby supporting an analysis for updating the risk assessment results. Employing principles of asset management, Hazen has developed a risk-based prioritization methodology and a risk model to guide the decision-making process in prioritizing condition assessments and rehabilitation and replacement (R&R) activities for the District's polyvinyl chloride (PVC) potable pipes.

The prioritization process employed combines assessments of the Probability of Failure (PoF) and the Consequence of Failure (CoF) of pipe segments. This risk-based approach is integral to any R&R prioritization program, as it significantly reduces the District's exposure to business risks, bolsters credibility with regulatory authorities, and enhances overall operational effectiveness. This method is applicable to both the condition assessment and rehabilitation phases, underscoring the importance of strategically determining "where" to focus initial inspection efforts as much as deciding "what" requires repair.

The subsequent sections of this document delineate the methodologies employed to derive the PoF, CoF, and Business Risk Exposure (BRE) scores. These scores are instrumental in prioritizing the rehabilitation and replacement of pipe segments within this study.

1.3. Methodology

This study focused on the active pipe segments that are owned by the District. Hazen used the following Geographic Information Systems (GIS) data to conduct a desktop condition assessment and risk analysis.

Data Retrieved From The District:

- Pipelines [Shapefiles: PZone1.shp, Pzone2.shp, PZ3.shp, Pzone4.shp, Source_Pipe.shp]
- Other Assets Utilized for Reference of Analysis [Shapefiles: Service.shp, Pump House.shp, Fire Hydrant.shp, Valvas.shp]
- District Divisions [Shapefiles: Unit_1.shp, Unit_2.shp, Unit_3.shp, Unit_4.shp, Unit_7.shp, Unit_8.shp, Unit_9.shp]

Data Retrieved From Other Sources:

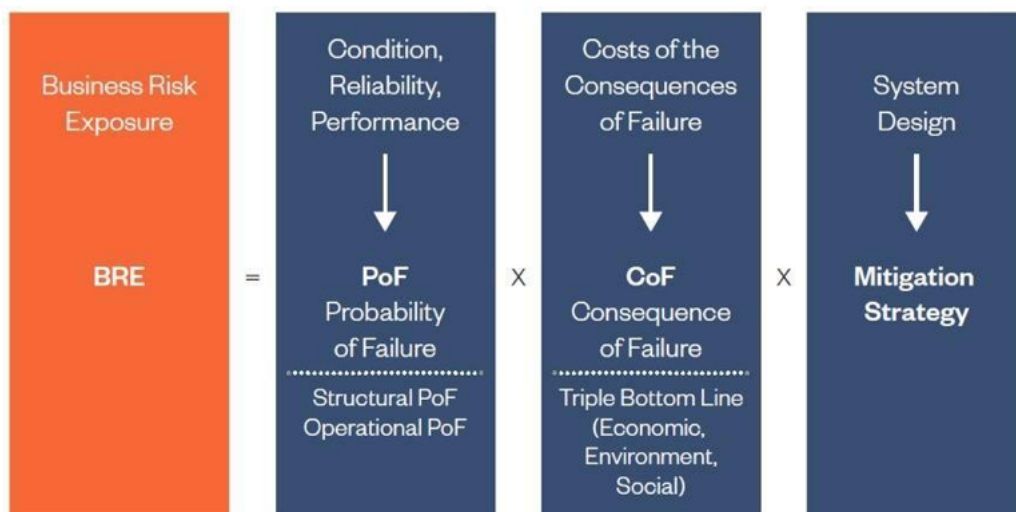
- Soil Corrosivity Areas (Downloaded from USGS)
- Streets Centerlines and Functional Classes (Downloaded from CalTrans)

Criteria and weighting were developed collaboratively with data provided by the District.

2. Condition Assessment Results

Hazen developed a risk-based methodology to calculate the BRE associated with each pipe segment by combining condition, age, and consequence of failure. As represented in the risk formula in **Figure 2.1.1** shows risk is composed of two key elements: PoF and CoF. Risk also takes into consideration any mitigation strategies such as redundancy that can lower the risk of failure. The risk-based approach is fundamental to any R&R prioritization program. The prioritization process applies to both the condition assessment and rehabilitation phases.

Figure 2.1: Risk Analysis Calculation



2.1. Probability of Failure

PoF measures an asset’s likelihood of failure. PoF for pipe segments were determined by evaluating each segment against the criteria in below. **Table 2.1.1** shows the PoF summarized by criteria.

Table 2.1.1: Probability of Failure Criteria

Criteria	Weight	5	4	3	2	1
Material	30%	PVC200, Steel	ACP Copper	HDPE, PVC		
Remaining Useful Life (years)	30%	<=9		<=29		>=30
Diameter	20%	<=2” Pipes	4” ACP	<2” and < 5”	Laterals	>=5
Leak History	15%	2+ Leaks		1 Leak		No Leaks
Soil Corrosivity	5%	High		Medium		Low or Non-Metallic Pipes

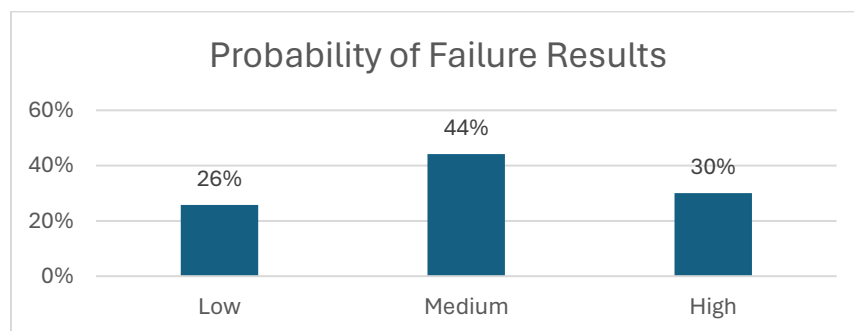
2.2. Total Probability of Failure

Table 2.2.1 shows the length and diameter of pipeline categorized by probability of failure. **Figure 2.2.1** shows overall pipeline categorized into high, medium and low risk of failure.

Table 2.2.1: Probability of Failure Results

Category	Diameter	Length	Percent of Pipelines
1	>=5	18,313.01	32.0%
2	Laterals	8,022.28	14.0%
3	>2” and <5”	10,377.98	18.1%
4	4” ACP	12,948.23	22.6%
5	<=2” pipes	7,577.43	13.2%

Figure 2.2.1: Probability of Failure



2.3. Consequence of Failure

CoF evaluates the direct and indirect impacts of asset failure against triple bottom line factors (Environment, Economic, and Social). CoF was measured by assigning weights to criteria selected by the District. **Table 2.3.1** shows the criteria and corresponding weighting assigned by Hazen in collaboration with District staff during a Risk Assessment Methodology Workshop. Using the GIS

layers provided by the District for the desktop condition assessment each criterion was scored using a scale of 1 to 5. The scores assigned to each pipe segment for each individual CoF criteria were multiplied by the weighting associated with each criterion and added together to calculate a total CoF score for each pipe segment. **Table 2.3.2** summarizes by the percentage the length of pipeline for each CoF score. The diameter of the pipe segments was used to capture the amount of flow through a pipe as well as the economic impact of a pipe replacement which is typically higher for larger pipes.

Table 2.3.1: Consequence of Failure Criteria

Criteria	Weight	5	4	3	2	1
Electrical Inspection	15%	Within the boundary identified by the District				Does not intersect the boundary identified by the District
Function	25%	Mainlines or fire hydrant laterals				Service lines
Traffic Impact (within 60 feet)	20%		Minor arterial (Highway 1)	Local		No traffic impact
Diameter (in lieu of flow data)	20%	6"	4"	3"	2"	1"
Redundancy	20%	None		Partial		Full

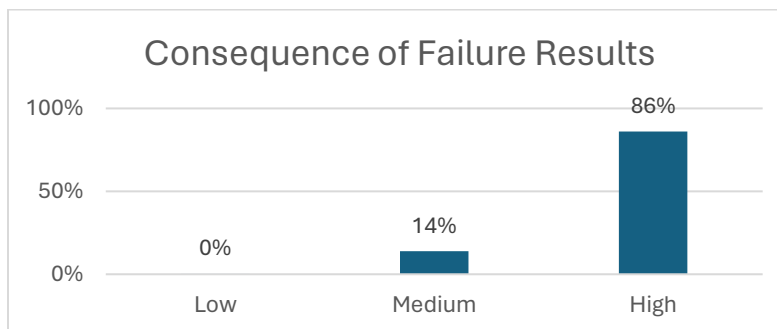
Table 2.3.2: Consequence of Failure by Flow Diameter Categories

Score	Diameter	Lenth	Percent of Pipelines
1	1"	5,073.53	8.9%
2	2"	10,371.11	18.1%
3	3"	9,000.36	15.7%
4	4"	14,325.85	25.0%
5	6"	18,468.08	32.3%

Total Consequence of Failure

The CoF results shown in **Figure 2.3.1** indicate that the majority of the District's potable water pipe segments have a high consequence of failure.

Figure 2.3.1: Total Consequence of Failure



3. Risk Results

3.1. Business Risk Exposure Analysis

PoF and CoF scores were multiplied to calculate the District’s business risk exposure scores for all pipe segments. **Table 3.1.1** summarizes the BRE results showing Risk Level and the associated percentage of pipe length. Over 46.5 percent of the overall length of the District’s potable water pipes are categorized as high business risk exposure at the time of this assessment.

Table 3.1.1: Business Risk Exposure

Risk Level	Length (Feet)	Percent of Pipelines
Low	6,787	11.9%
Medium	23,850	41.7%
High	26,600	46.5%

4. Conclusion

These capital project improvement data-driven risk-based recommendations necessitate local engineering expertise and financial acumen to develop an optimal implementation strategy. Understanding the specificities of the local environment, including regulatory requirements and community needs, is crucial for the success of these projects. For instance, it may be more cost-effective to prioritize assets identified as low or medium risk that are found to require frequent, costly repairs over high-risk assets. This approach not only simplifies construction management activities but also maximizes resource efficiency and minimizes operational disruptions. Moreover, trade-offs may be required to align projects with the available budget. This involves prioritizing certain projects over others, potentially deferring certain improvements to ensure that critical infrastructure needs are met within financial constraints. A balanced approach that considers both the technical and economic aspects will ensure that the capital improvements deliver the intended benefits without exceeding budgetary limits. Such a strategy will enhance the overall sustainability and resilience of the infrastructure, ultimately providing greater value to stakeholders.

Table 4.1: Capital Improvement Plan Years 1 -5

Project Name	Project Descriptions	Project Cost
Unit 2 Pipeline Replacement Project 1	This project includes replacement of 6" pipelines totalling 1161.9 feet location in Unit 2. These pipelines show a high consequence of failure due to proximity to medium voltage electrical conduit. This project will improve system reliability, increase operational flexibility and reduce overall maintenance needs and costs.	\$225,383
Unit 7 Pipeline Replacement Project 1	This project includes replacement of 6" pipelines totalling 1895.5 feet location in Unit 7. These pipelines show a high consequence of failure due to proximity to medium voltage electrical conduit. This project will improve system reliability, increase operational flexibility and reduce overall maintenance needs and costs.	\$367,697
	Total:	\$593,080

Table 4.2: Capital Improvement Plan Years 5 -25

Project Name	Project Description	Project Costs
Unit 1 Pipeline Replacement Project 1	This project includes replacement of 2" pipelines totalling 2,393.3 feet located in Unit 1. These pipe segments will be approaching the end of their useful lives in next 5 to 25 years. This project will improve system reliability, increase operational flexibility and reduce overall maintenance needs and costs.	\$218,987
Unit 2 Pipeline Replacement Project 2	This project includes replacement of 1", 2" and 6" pipelines totalling 2,406.06 feet located in Unit 2. These pipe segments will be approaching the end of their useful lives in next 5 to 25 years. This project will improve system reliability, increase operational flexibility and reduce overall maintenance needs and costs.	\$209,600
Unit 3 Pipeline Replacement Project 1	This project includes replacement of 1", 2" and 4" pipelines totalling 1,256.42 feet located in Unit 3. These pipe segments will be approaching the end of their useful lives in next 5 to 25 years. This project will improve system reliability, increase operational flexibility and reduce overall maintenance needs and costs.	\$118,445
Unit 7 Pipeline Replacement Project 2	This project includes replacement of 1" and 4" pipelines totalling 911.67 feet located in Unit 7. These pipe segments will be approaching the end of their useful lives in next 5 to 25 years. This project will improve system reliability, increase operational flexibility and reduce overall maintenance needs and costs.	\$111,507
	Total:	\$658,539

Table 4.3: Capital Improvement Plan Years 25+

Project Name	Project Description	Project Cost
Unit 2 Pipeline Replacement Project 3	This project includes replacement of 1" pipelines totalling 64.63 feet located in Unit 2. These pipe segments will be approaching the end of their useful lives in next 25+ years. This project will improve system reliability, increase operational flexibility and reduce overall maintenance needs and costs.	\$5,305
Unit 4B Pipeline Replacement Project 1	This project includes replacement of 1", 2", 3", 4" and 6" pipelines totalling 4,783.47 feet located in Unit 4b. These pipe segments will be approaching the end of their useful lives in next 25+ years. This project will improve system reliability, increase operational flexibility and reduce overall maintenance needs and costs.	\$473,654
Unit 7 Pipeline Replacement Project 3	This project includes replacement of 1" and 6" pipelines totalling 4,069.04 feet located in Unit 7. These pipe segments will be approaching the end of their useful lives in next 25+ years. This project will improve system reliability, increase operational flexibility and reduce overall maintenance needs and costs.	\$375,895
Unit 8 Pipeline Replacement Project 1	This project includes replacement of 1", 3" and 6" pipelines totalling 1,868.16 feet located in Unit 8. These pipe segments will be approaching the end of their useful lives in next 25+ years. This project will improve system reliability, increase operational flexibility and reduce overall maintenance needs and costs.	\$262,729
Unit 9 Pipeline Replacement Project 1	This project includes replacement of 1", 2", 3" and 6" pipelines totalling 7,037.94 feet located in Unit 9. These pipe segments will be approaching the end of their useful lives in next 25+ years. This project will improve system reliability, increase operational flexibility and reduce overall maintenance needs and costs.	\$1,006,050
	Total:	\$2,123,633
	Grand Total (All Projects):	\$3,375,252

5. Appendix: Capital Improvement Plan Maps

Legend

State Highway 1

Capital Improvement Projects

- UNIT_1_CIP_1 (Project Cost: \$218,987)
- UNIT_2_CIP_1 (Project Cost: \$225,382)
- UNIT_2_CIP_2 (Project Cost: \$209,600)
- UNIT_2_CIP_3 (Project Cost: \$5,305)
- UNIT_3_CIP_1 (Project Cost: \$118,445)
- UNIT_4B_CIP_1 (Project Cost: \$473,654)
- UNIT_7_CIP_1 (Project Cost: \$367,697)
- UNIT_7_CIP_2 (Project Cost: \$111,507)
- UNIT_7_CIP_3 (Project Cost: \$375,895)
- UNIT_8_CIP_1 (Project Cost: \$262,729)
- UNIT_9_CIP_1 (Project Cost: \$1,006,050)

Hazen Project Number: 20231-000
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Service Layer Credits:



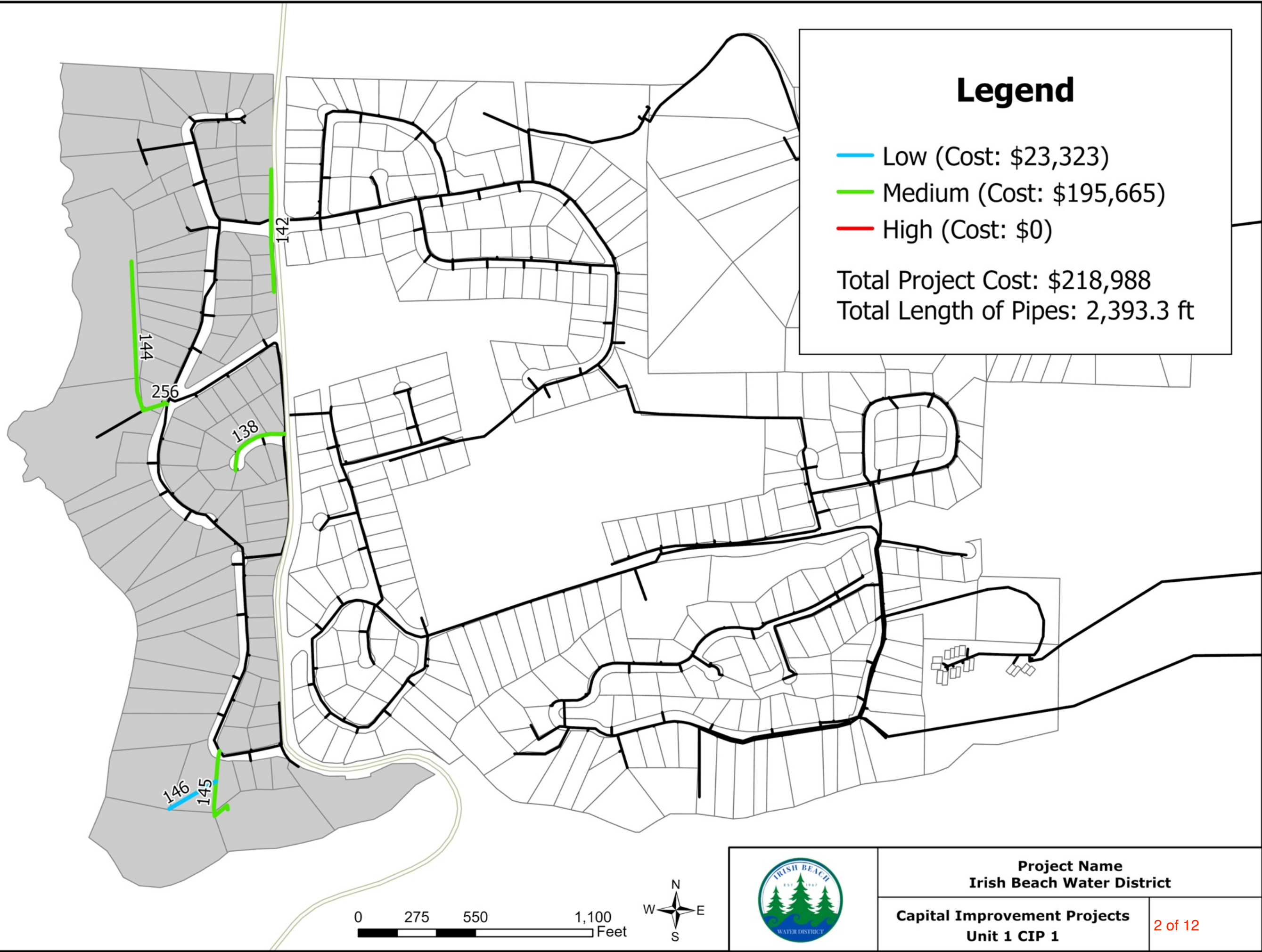
0 500 1,000 Feet



Project Name
Irish Beach Water District

Capital Improvement Projects
Overview Map

1 of 12

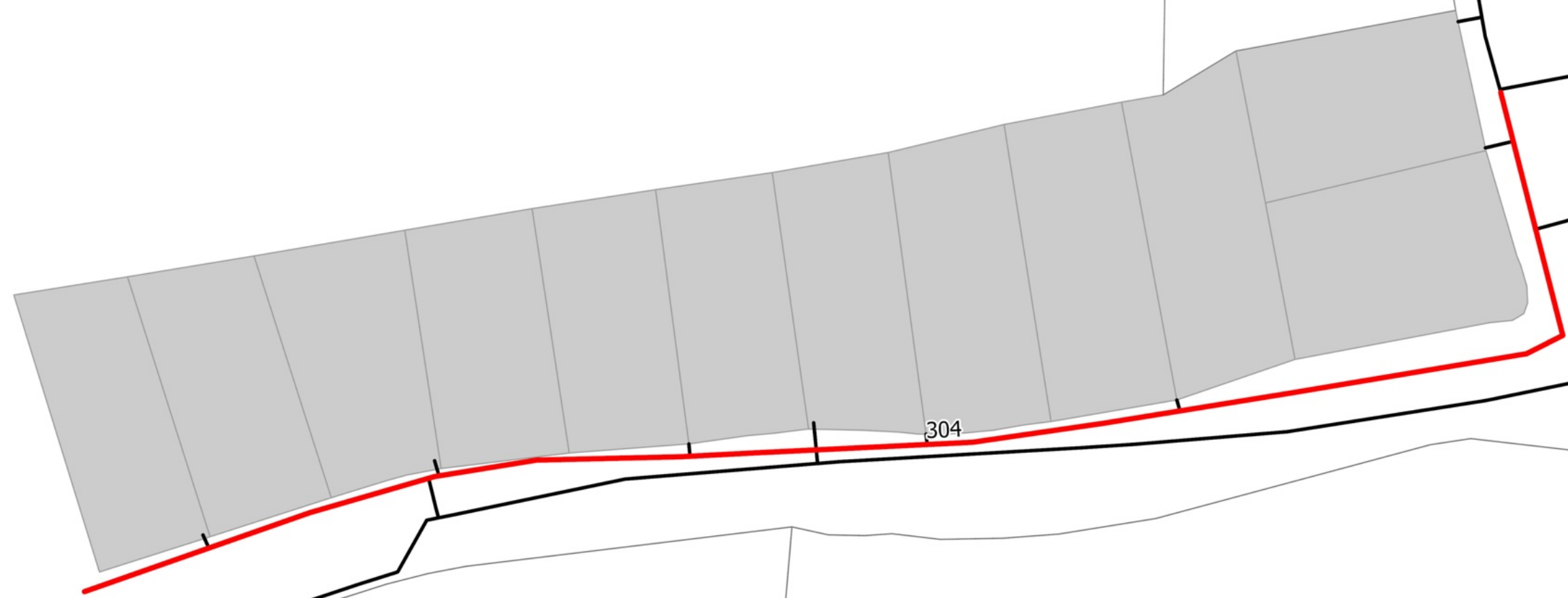


Project Name Irish Beach Water District	
Capital Improvement Projects Unit 1 CIP 1	2 of 12

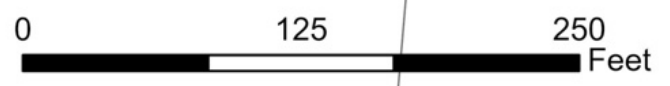
Legend

- Low (Cost: \$0)
- Medium (Cost: \$0)
- High (Cost: \$255,383)

Total Project Cost: \$225,383
Total Length of Pipes: 1,161.9 ft



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Service Layer Credits:



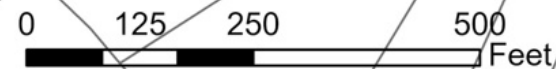
Project Name Irish Beach Water District	
Capital Improvement Projects Unit 2 CIP 1	3 of 12

Legend

- Low (Cost: \$87,535)
- Medium (Cost: \$122,065)
- High (Cost: \$0)

Total Project Cost: \$209,600
Total Length of Pipes: 2,406.06 ft

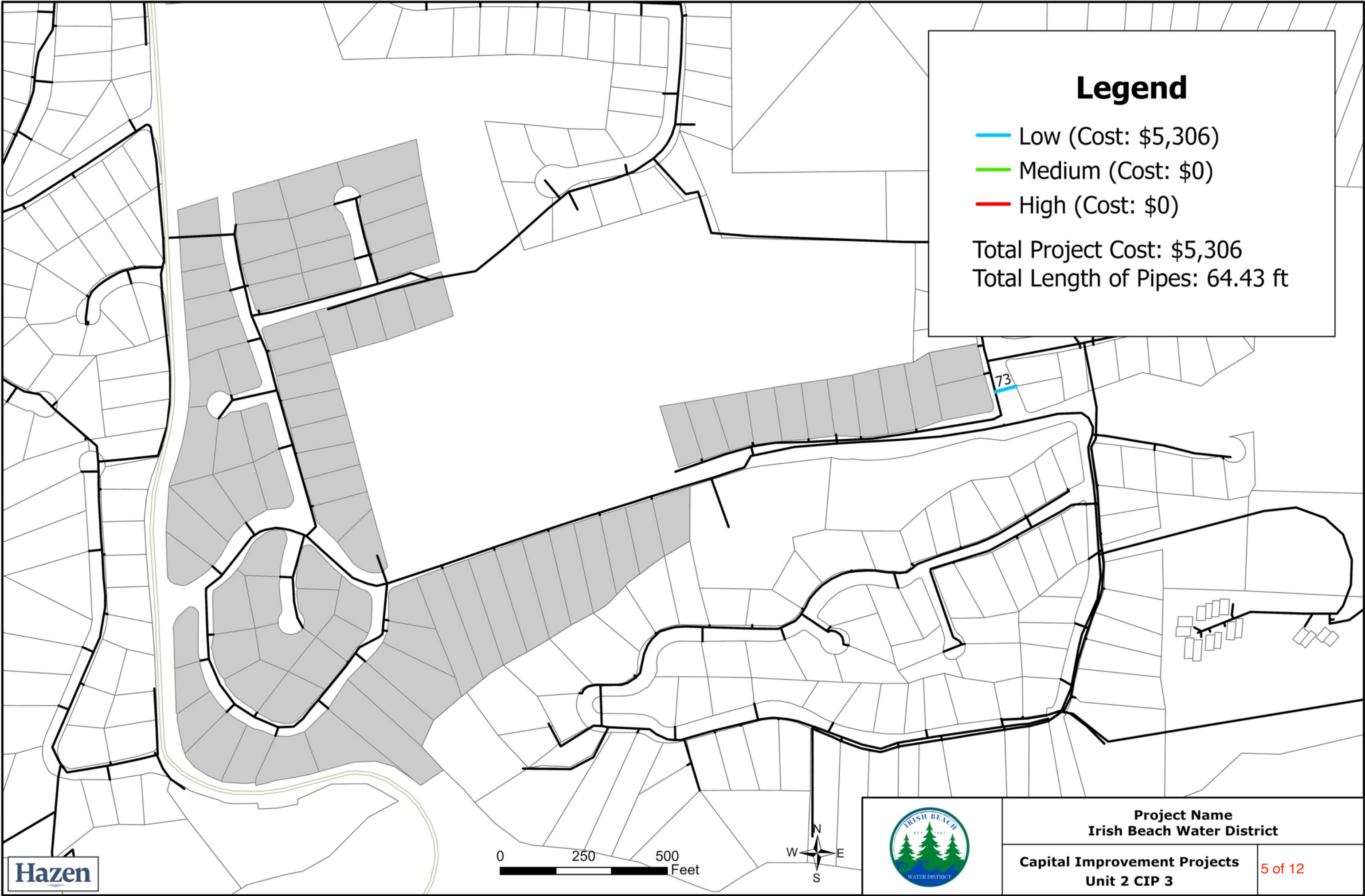
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Project Name
Irish Beach Water District

Capital Improvement Projects
Unit 2 CIP 2

4 of 12



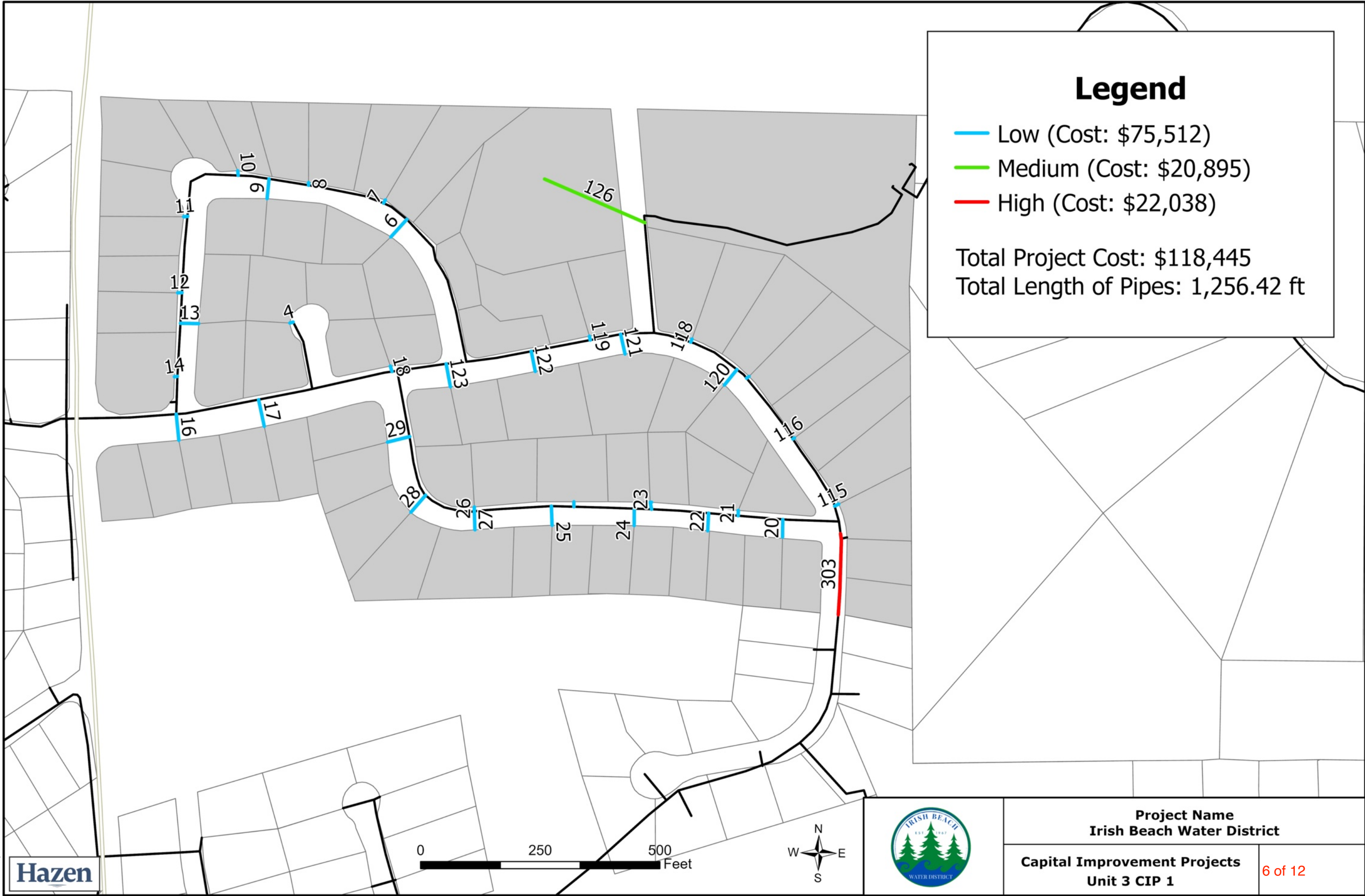
Legend

- Low (Cost: \$5,306)
- Medium (Cost: \$0)
- High (Cost: \$0)

Total Project Cost: \$5,306
Total Length of Pipes: 64.43 ft



Project Name Irish Beach Water District	
Capital Improvement Projects Unit 2 CIP 3	5 of 12



Legend

- Low (Cost: \$75,512)
- Medium (Cost: \$20,895)
- High (Cost: \$22,038)

Total Project Cost: \$118,445
Total Length of Pipes: 1,256.42 ft



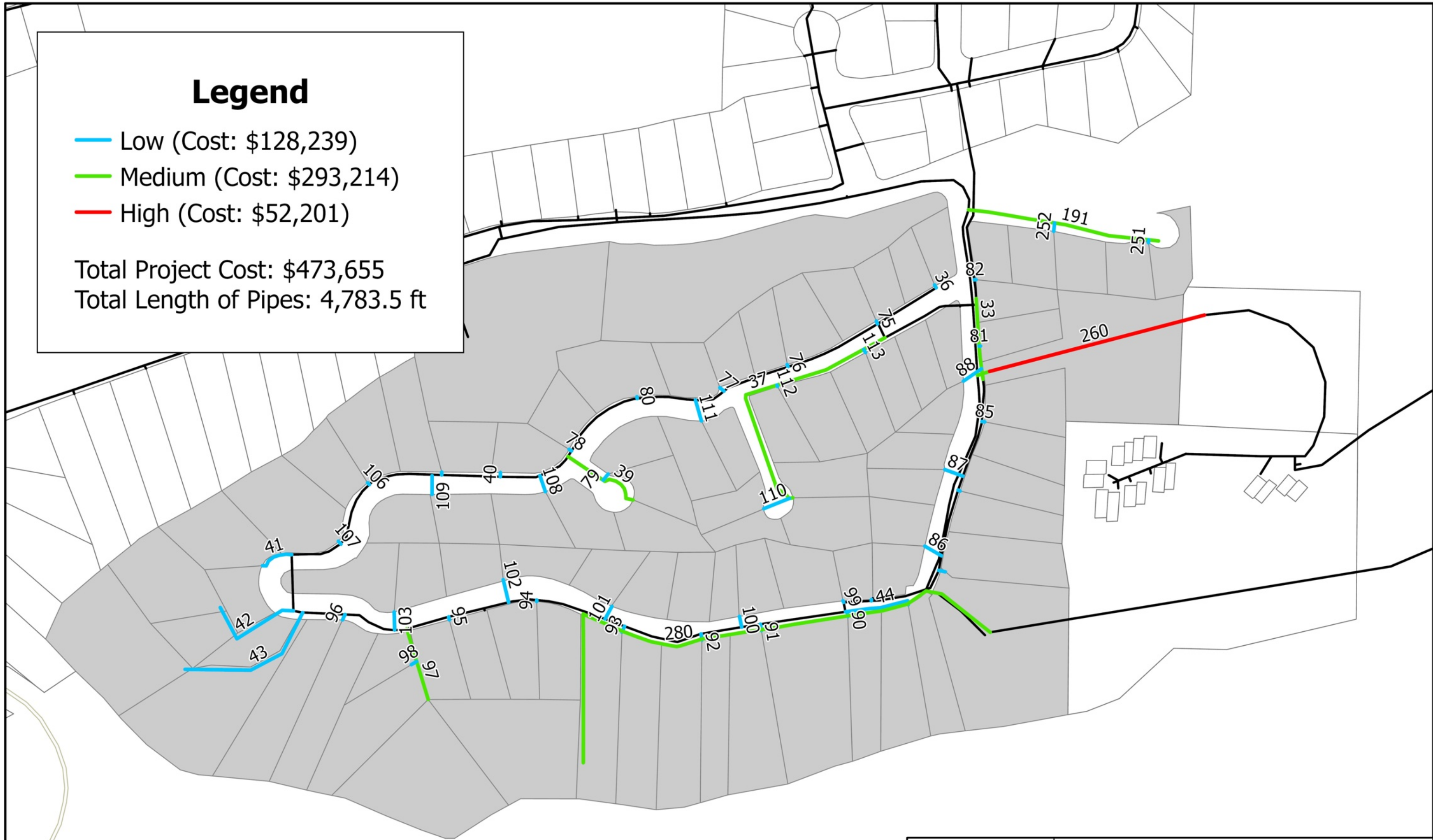
Project Name
Irish Beach Water District

Capital Improvement Projects
Unit 3 CIP 1

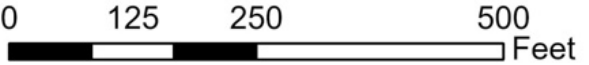
Legend

- Low (Cost: \$128,239)
- Medium (Cost: \$293,214)
- High (Cost: \$52,201)

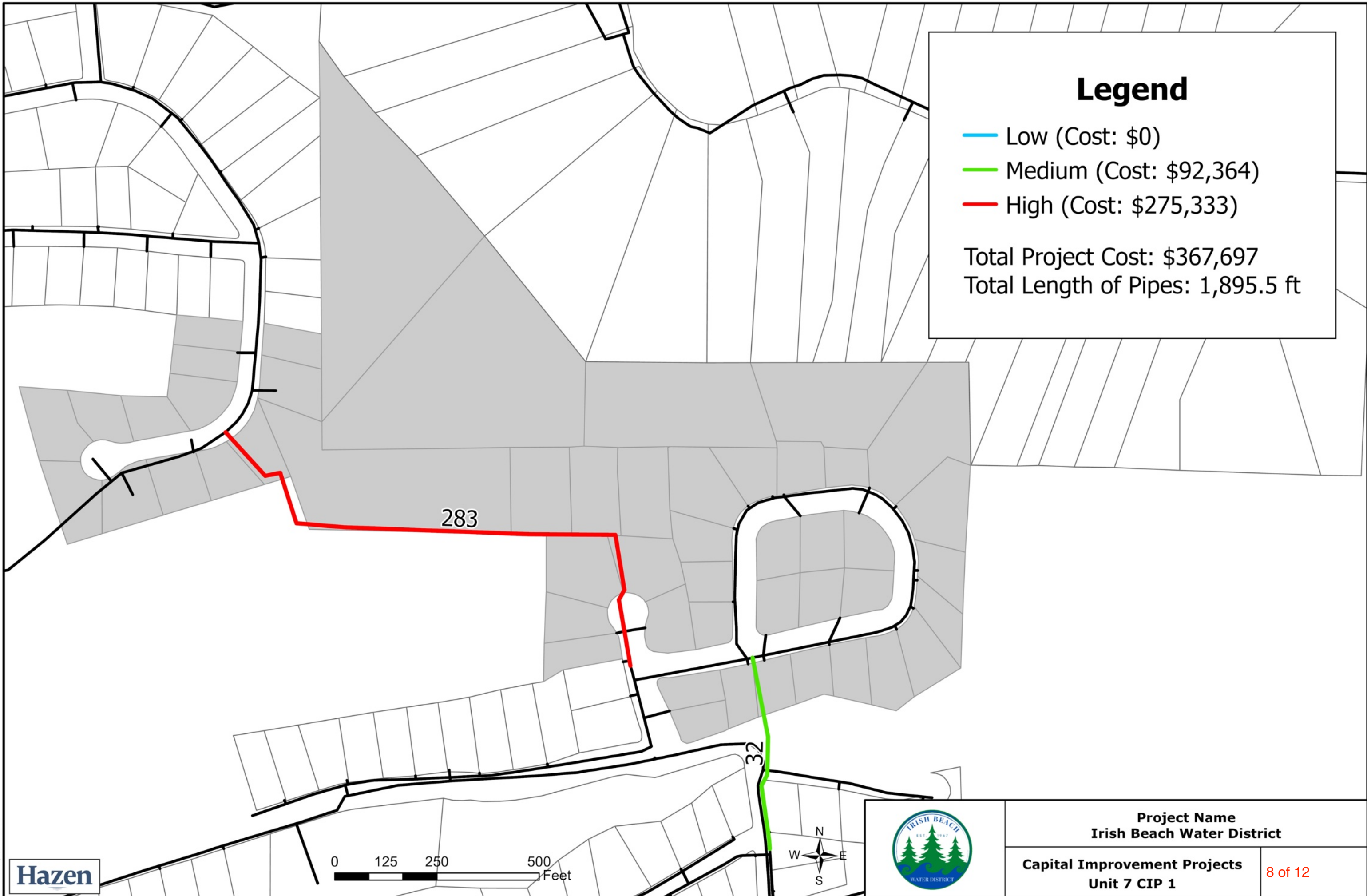
Total Project Cost: \$473,655
 Total Length of Pipes: 4,783.5 ft



Hazen Project Number: 20231-000
 Export Date: 6/3/2024 3:25 PM By: CWaller
 Service Layer Credits:



Project Name Irish Beach Water District	
Capital Improvement Projects Unit 4B CIP 1	7 of 12



Legend

- Low (Cost: \$0)
- Medium (Cost: \$92,364)
- High (Cost: \$275,333)

Total Project Cost: \$367,697
Total Length of Pipes: 1,895.5 ft

Hazen Project Number: 20231-000
 Export Date: 6/3/2024 5:06 PM By: CWaller
 Service Layer Credits:

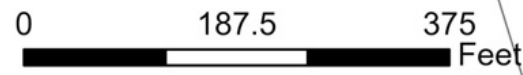
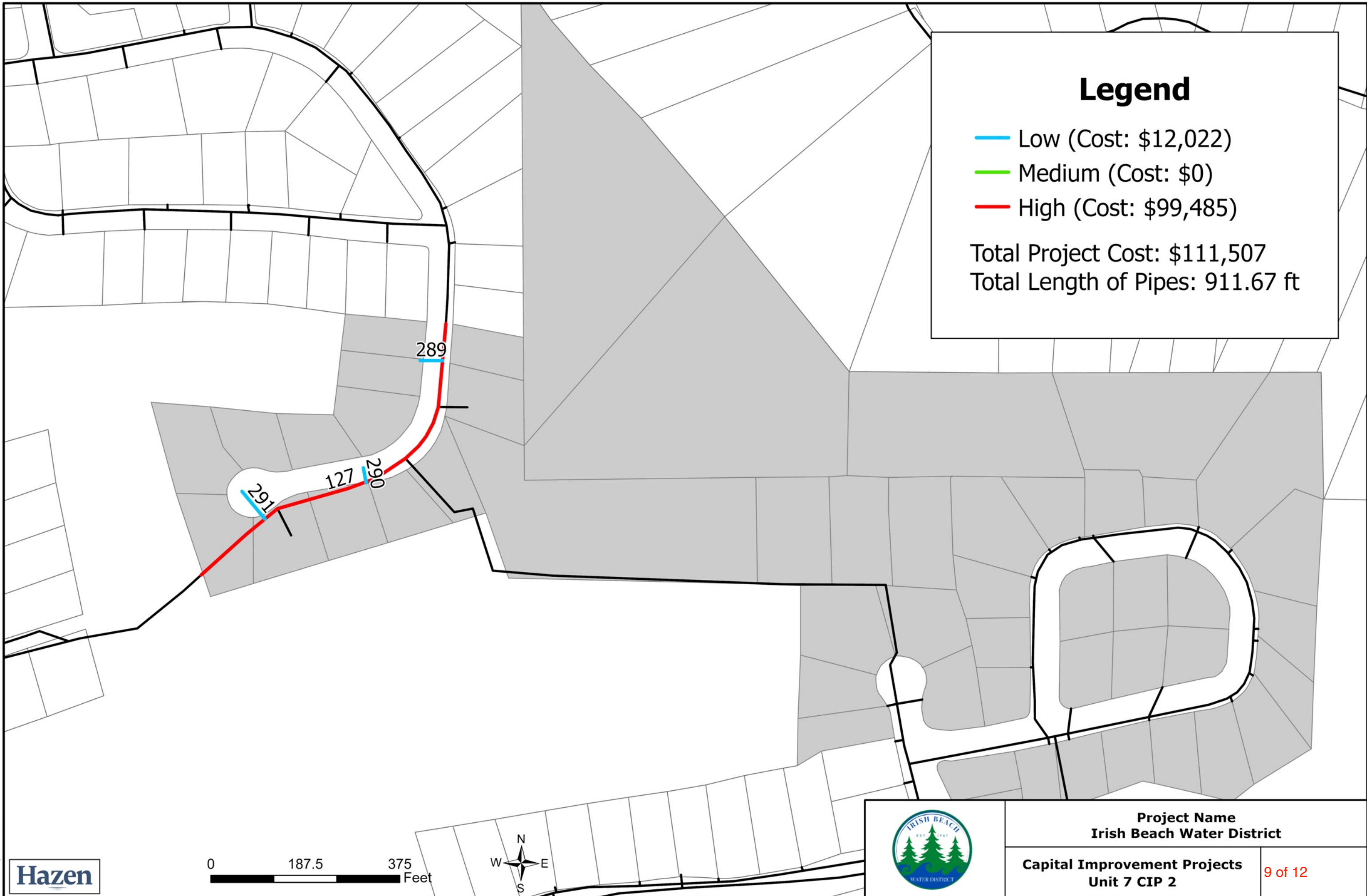


Project Name Irish Beach Water District	
Capital Improvement Projects Unit 7 CIP 1	8 of 12

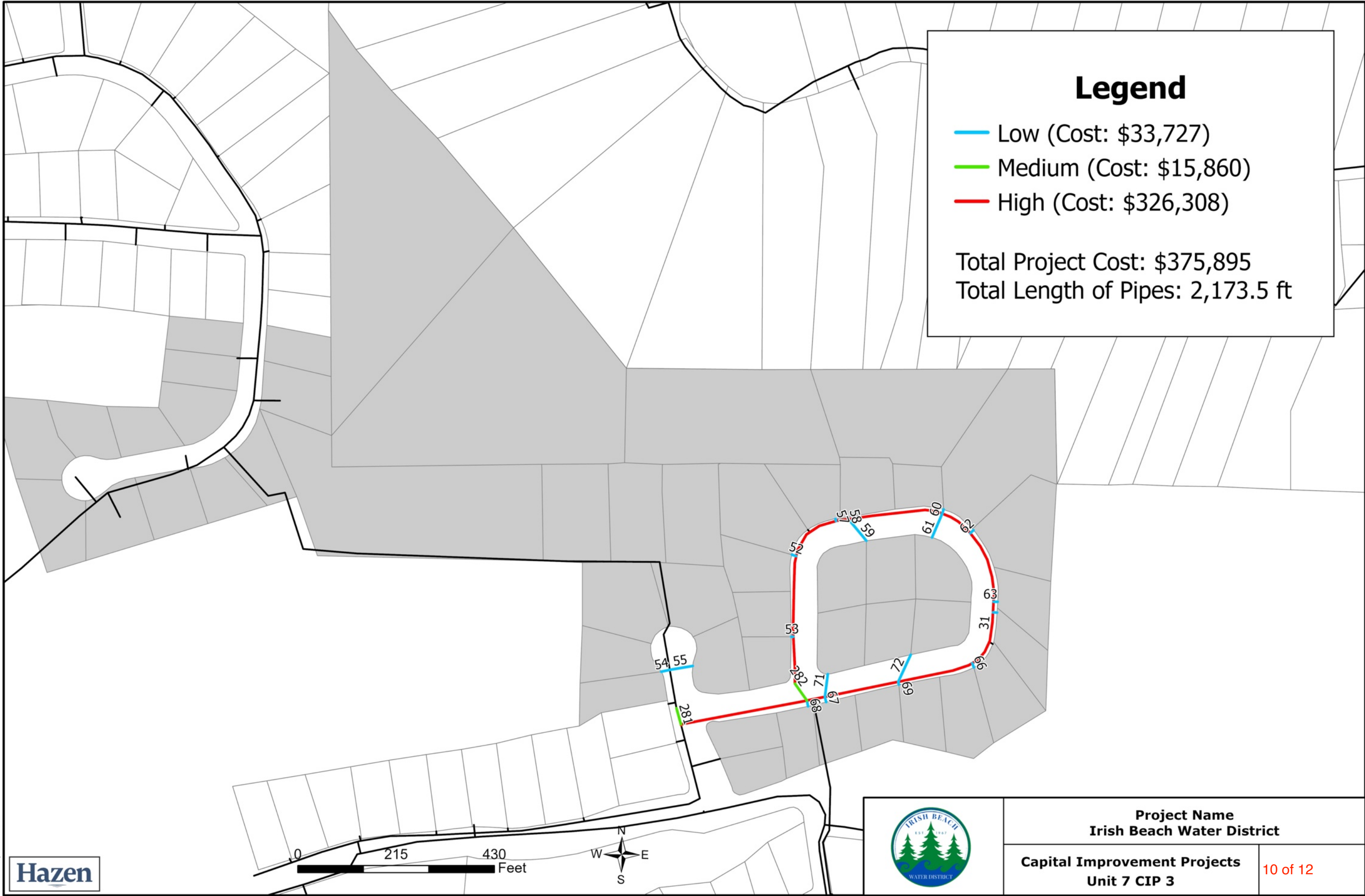
Legend

- Low (Cost: \$12,022)
- Medium (Cost: \$0)
- High (Cost: \$99,485)

Total Project Cost: \$111,507
Total Length of Pipes: 911.67 ft



Project Name	
Irish Beach Water District	
Capital Improvement Projects	9 of 12
Unit 7 CIP 2	



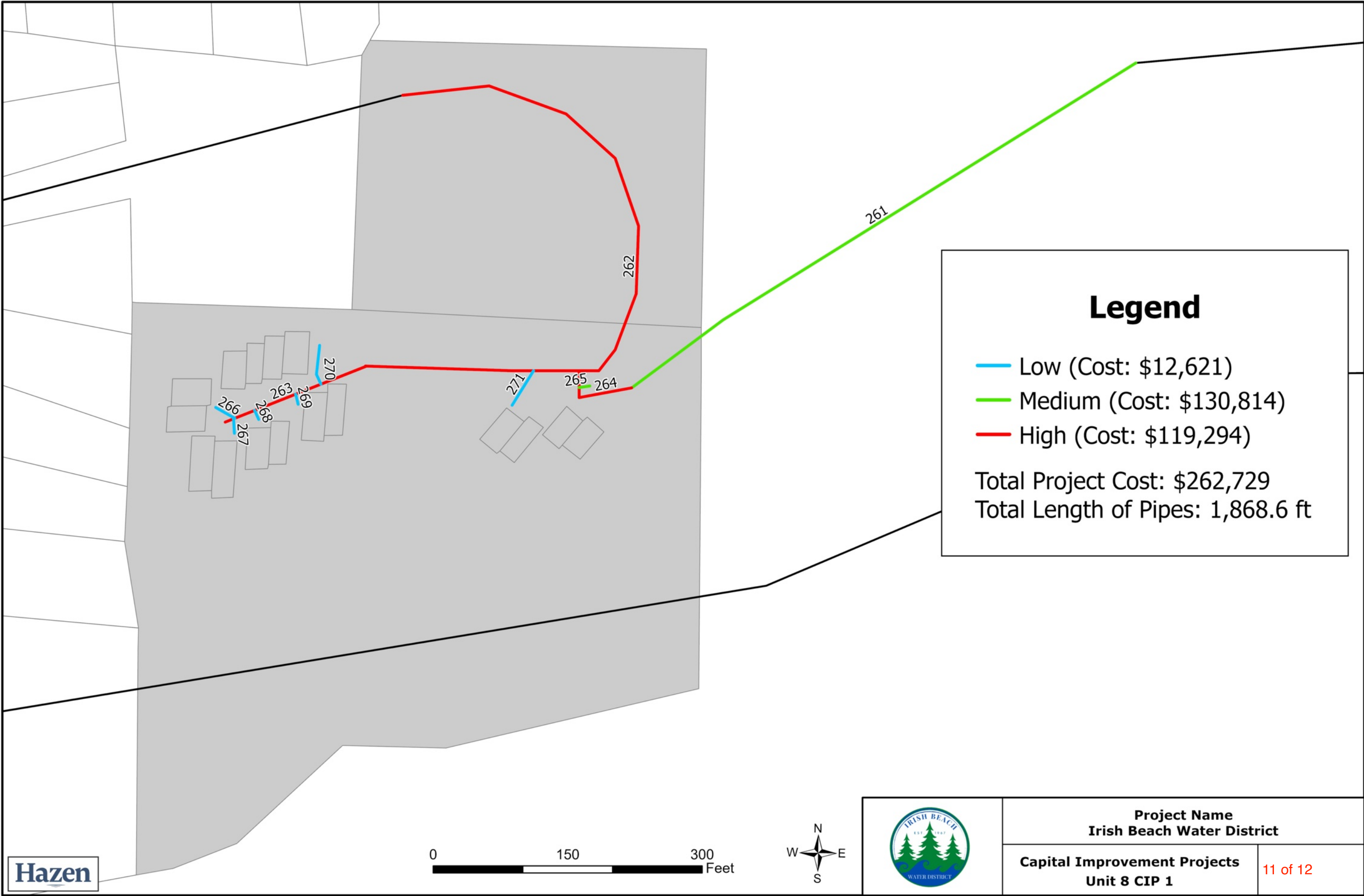
Legend

- Low (Cost: \$33,727)
- Medium (Cost: \$15,860)
- High (Cost: \$326,308)

Total Project Cost: \$375,895
Total Length of Pipes: 2,173.5 ft



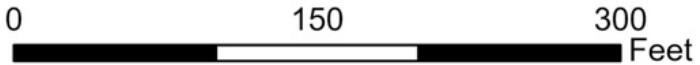
Project Name Irish Beach Water District	
Capital Improvement Projects Unit 7 CIP 3	10 of 12



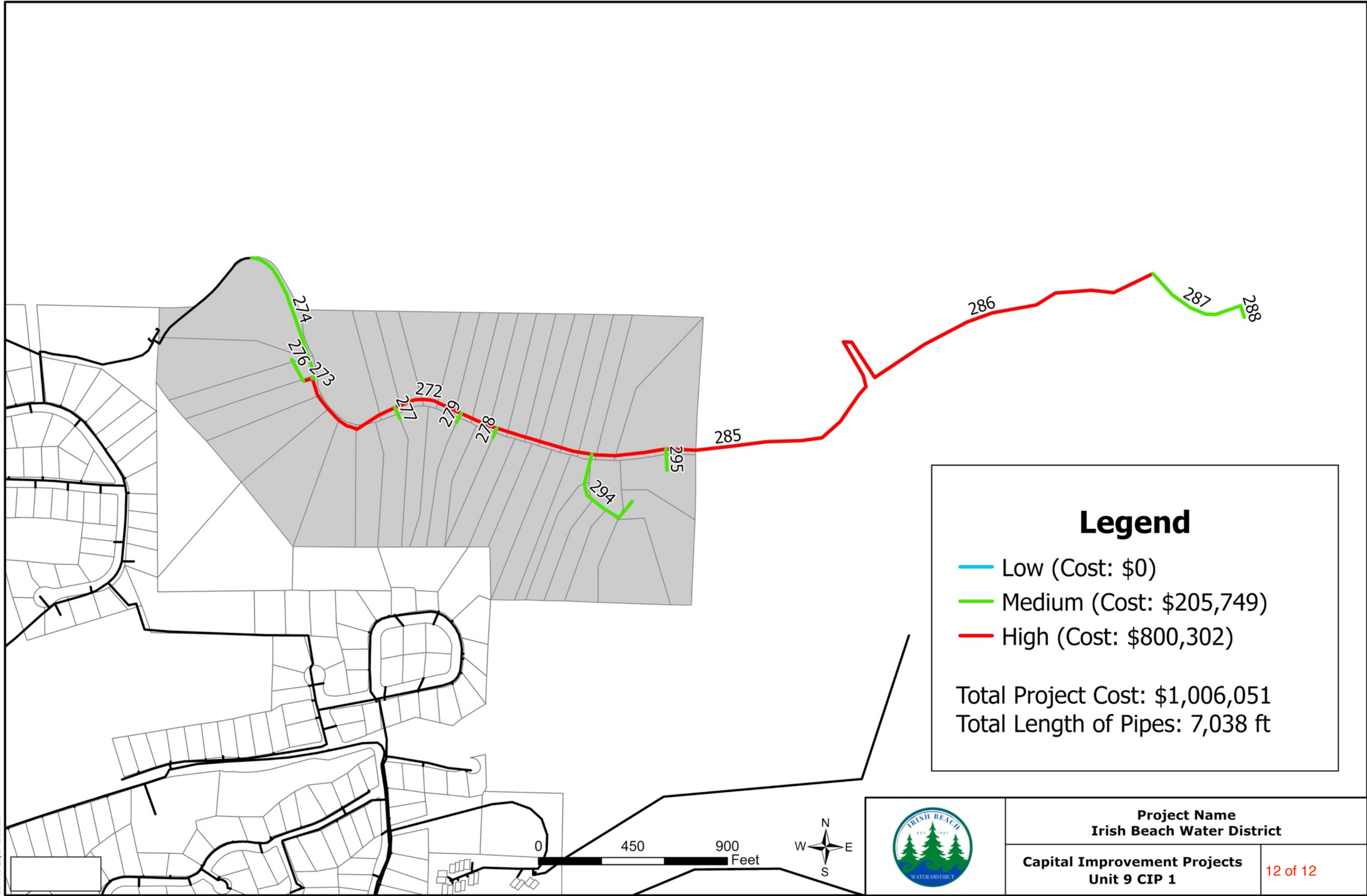
Legend

- Low (Cost: \$12,621)
- Medium (Cost: \$130,814)
- High (Cost: \$119,294)

Total Project Cost: \$262,729
Total Length of Pipes: 1,868.6 ft



Project Name Irish Beach Water District	
Capital Improvement Projects Unit 8 CIP 1	11 of 12



Legend

- Low (Cost: \$0)
- Medium (Cost: \$205,749)
- High (Cost: \$800,302)

Total Project Cost: \$1,006,051
Total Length of Pipes: 7,038 ft



Project Name Irish Beach Water District	
Capital Improvement Projects Unit 9 CIP 1	12 of 12

