City Council Orientation Handbook

Milwaukie, Oregon

November 2018

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Office of the City Recorder – Milwaukie Oregon

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6. Engineering

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Rights of Way (ROW) Permitting/Standards

ENGINEERING DEPARTMENT
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Encroachments in Public Right-of-Way

INFORMATION and APPLICATION

ABOUT ENCROACHMENTS IN THE PUBLIC RIGHT-OF-WAY

A public Right-of-Way (ROW) is a portion of land to be used by the general public for the transportation of people and goods. Rights-of-way may be encroached upon in certain circumstances, as long as the mobility of pedestrians and vehicles is not impeded. For any addition to the ROW environment, certain ideals are held paramount: safety and accessibility for all.

Rights-of-Way are not always improved to current standards for sidewalks and streets, and such unimproved Rights-of-Way may look no different than the adjacent private property. The sizes and orientations of ROWs vary for each location, as will permissible encroachments. Encroachments are designated as Major or Minor according to the degree of alteration from the original state of the ROW. The following information describes accessibility standards, typical types of encroachments and other details pertaining to Right of Way Encroachments.

ENCROACHMENT INTO THE RIGHT-OF-WAY

The public ROW should be enjoyed by everyone; therefore, all encroachments into improved ROWs must adhere to the Americans with Disabilities Act (ADA) standards. The proposed design must accommodate a Pedestrian Accessibility Route (PAR) of 5 feet. Additional ADA treatments, such as ramps or beveled edges, may be required depending on the design configuration. Encroachments may be permitted in the Frontage Zone or the Furniture Zone, if travel through the PAR is not obstructed, see Figure 1. The width of the corridor will determine encroachment options.

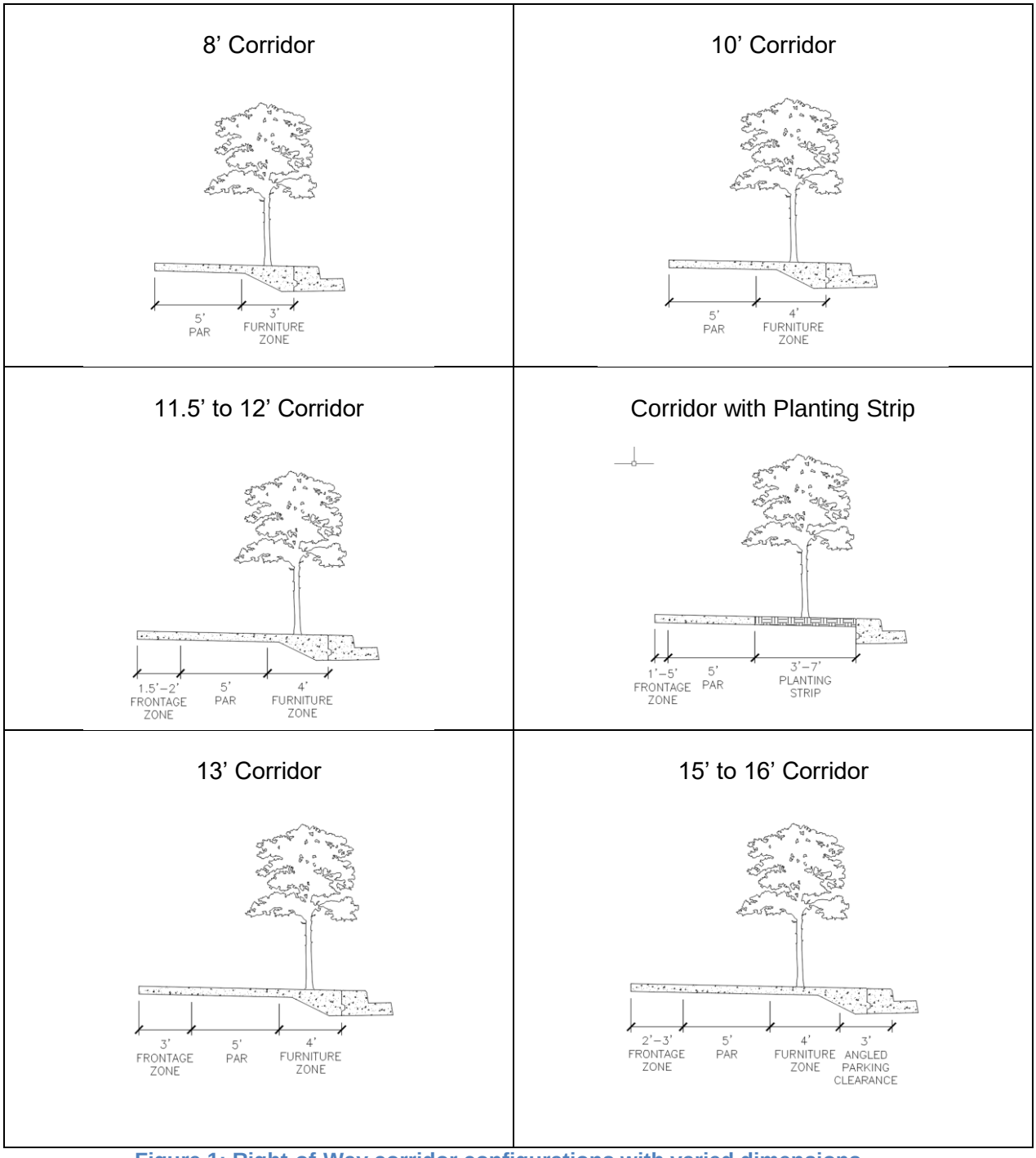


Figure 1: Right-of-Way corridor configurations with varied dimensions.

Unimproved ROWs possess no improvements or other built features separating them from the roadway, except, in some cases, a curb. The Encroachment Zone, area eligible for ROW encroachments, consists of any area between the Clear Zone and the abutting private property. A Clear Zone must be established between the roadway and the Encroachment Zone. For ROWs with a curb, the Clear Zone should be a minimum of 3 feet and, without a curb, a minimum of 7 feet (Figure 2) according to Chapter 3.1 in the Roadside Design Guide. When considering any encroachment into the Encroachment Zone, it is important to remember that a future 5-foot sidewalk may be constructed within the last 6 feet adjacent to the property as determined by the City.

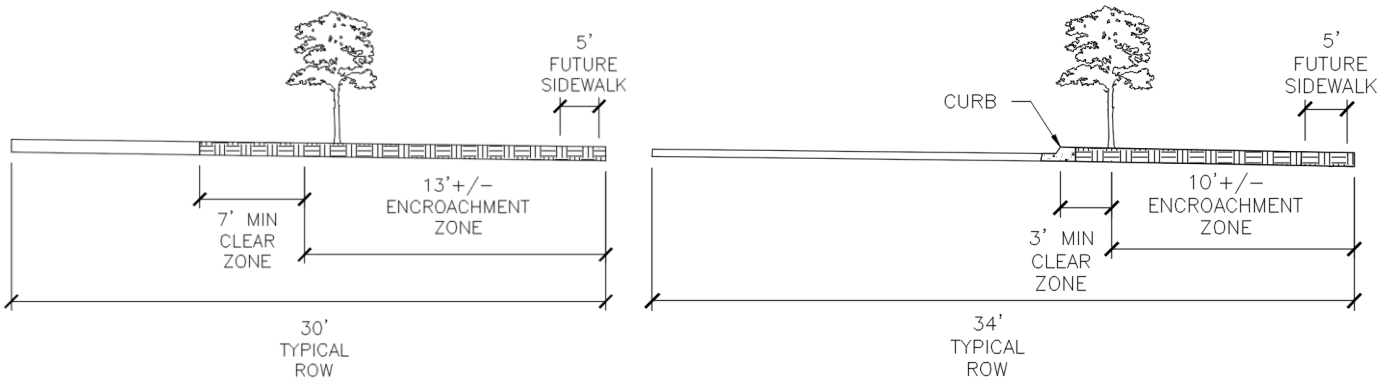


Figure 2: Unimproved Right-of-Way corridors, with and without curbs.

It is also important to remember that encroachments into the PAR are permitted under specific circumstances if the width never falls below 4 feet minimum. Any encroachments into the Right of Way must also comply with ADA standards as indicated in figure 3.

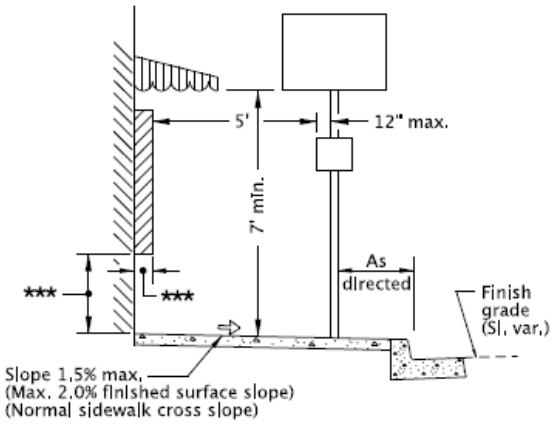


Figure 3: Clear circulation path defined by ADA standards.

TYPICAL ENCROACHMENTS

Encroachments may be permitted given that the safety of pedestrians and motorists is preserved, and the Pedestrian Accessibility Route is not impinged upon. If these conditions are not met, the encroachment will generally not be allowed. Encroachments are classified as Major, Minor or Exceptions; the latter is the only classification that does not require a permit. In the case of Major and Minor Encroachments, an Encroachment Permit application must be submitted to the Engineering Department with a site plan and any project details that may be relevant. The permit will be granted if the proposal is acceptable, and a fee as established by resolution of the City Council will be charged. The Encroachment Permit is contingent on proper maintenance of the structure(s) and liability requirements, and no encroachment in the public Right-of-Way will be allowed to become a safety hazard which obscures the visibility of drivers, bicyclists, or pedestrians.

Major Encroachments

- **Retaining walls**- Walls that exceed 30 inches in height or are employed in managing the weight of adjacent features will require a structural review by the Engineering/Building Department.
- **Structural driveways & walkways**- Structures connecting to and providing access from a private facility to a public street may be allowed within the Right-of-Way when there is a grade differential between the public Right-of-Way and private property. Such structures will require structural review by Engineering/Building Department.
- **Stairs and hand railings**- Construction must also comply with Building Code and other regulations applicable to the property type.
- **Building projections and extensions**- Building projections that encroach into the Right-of-Way must also comply with International Building Code (IBC) Chapters 31 and 32 (above-grade). Encroachments at-grade or below-grade must not interfere with ADA accessibility requirements.
- **Temporary shoring**- Piles and anchors placed within the Right-of-Way under tension for temporary building shoring may be allowed. All components of the shoring system in the Right-of-Way that are less than 5 feet below the ground surface must be permanently removed upon completion. Any components of the system within the Right-of-Way that are greater than 5 feet deep and will remain in place must be permanently detensioned upon completion. The proposed shoring system will be reviewed for any conflicts with existing utilities and will also require a structural review. Liability insurance meeting the Engineering Department's requirements for street and sidewalk use permits is required until all permanent detensioning and all permanent removal of components is complete.

Minor Encroachments

- **Bollards and barricades**- Bollards and/or barricades are generally not allowed in the public Right-of-Way; they are only allowed with the prior approval of the Engineering Department. If they are allowed, an Encroachment Permit will be issued to the responsible party and will detail case-specific conditions and requirements.
- **Walls**- Walls greater than 9 inches and less than 30 inches in height shall be considered Minor Encroachments.
- **Bicycle facilities**- Private bicycle racks, repair stands, etc. are allowed in the Right-of-Way through a permit from the Engineering Department. Private bicycle racks are those not owned and maintained by the City of Milwaukie.
- **Fences-** Fences must meet the Planning and Zoning requirements for private properties. If the proposed encroachment has the ability to obstruct a vehicle in motion, it may be considered a Major Encroachment.
- **Vault openings**- The vault opening must be within the Frontage or Furniture Zones of the sidewalk corridor and flush with the surrounding surface. It may not interfere with public use of the Right-of-Way, the placement of street trees or public and franchise utilities. The vault opening must meet all ADA requirements and the material and construction requirements of the Engineering Department.
- **Public art**- Public art, either as its own structure or as treatment to a surface in the Right-of-Way, may be allowed subject to approval through the Art in Public Places (APP) program. In addition, public art is subject to approval by the Engineering Director for location and safety considerations. Public art is placed within the public Right-of-Way through the APP program or as part of the 1.5 percent contribution on capital projects. All public art is owned by the City and maintained by APP through contract; privately owned structures containing art are not allowed in the public Right-of-Way.
- **Public memorials, historical markers and plaque**- In limited circumstances, public memorials, historic markers and plaques may be approved subject to review and approval of the Engineering Director. In design districts, this type of encroachment may be subject to Design Review. If the proposed encroachment has the ability to obstruct a vehicle in motion, it may be considered a Major Encroachment.
- **Benches**- Privately owned benches for public use may be allowed in the Right-of-Way within the Frontage or Furniture Zones. Pending acceptance of the application, an Encroachment Permit will be issued to either the adjacent property owner or an appropriate neighborhood association. If the permit is issued to a neighborhood association, then the permit will be personal to that association, and they will be required to have and maintain proper liability insurance. In design districts, benches in the Right-of-Way may be subject to Design Review.
- **Tree Tubs**- To meet street tree requirements where tree wells are not possible, tree tubs may be allowed in the ROW. Trees in the Furniture Zone must be at least 2 feet from the curb face and 1 foot from the PAR. The PAR must remain accessible from the street and parked vehicles. The tree tub should not be easily movable.

- **Planter boxes**- Planter boxes in the Furniture Zone (between the curb and the sidewalk) may be allowed if they meet the following general guidelines.

<u>In Furniture Zones wider than four feet, planter boxes:</u>

- Should be located 2 feet from the curb face.
- Should be located 1 foot from the Pedestrian Accessibility Route, which is the concrete sidewalk in most cases.
- Should not exceed 10 feet in length.
- Should maintain 4 feet of separation between adjacent planter boxes.

<u>In Furniture Zones four feet wide or narrower, planter boxes:</u>

- May be constructed with no separation from the Pedestrian Accessibility Route and a minimum distance of 1 foot from the face of the curb.
- Should not exceed 4 feet in length.
- Should maintain 10 feet of separation between adjacent planter boxes.

<u>Regardless of Furniture Zone width:</u>

- Planter boxes should not exceed 18 inches in height.
- Landscaping and soil within the planter box should not exceed 30 inches in height (as measured from the top of the curb) when located within 25 feet from an intersection.
- Planter boxes should be located a minimum of 5 feet from any utility or apparatus such as: street lights, utility poles, water meters or fire hydrants.
- To protect the health of the trees, planter boxes should not be located within the drip line of any street tree.
- Planter boxes may never reduce the PAR below 4 feet in width.

- **Garbage receptacles**- Permanent garbage receptacles for use by the general public may be allowed in the Right-of-Way. The garbage receptacle may not be greater than 3 feet in width and 4 feet in height, and must fit within the Frontage Zone or the Furniture Zone of the sidewalk corridor. The garbage receptacle should not be easily movable. The owner must provide garbage removal service at the minimum frequency needed to keep the garbage receptacle from overflowing or developing odor problems, and must maintain the garbage receptacle with regard to vandalism, sanitation and physical condition. Pending acceptance of the application, an Encroachment Permit will be issued to either the adjacent property owner or an appropriate neighborhood association. If the permit is issued to a neighborhood association, then the permit will be personal to that association, and they will be required to have and maintain proper liability insurance. The garbage receptacle may not be used for business purposes.
- **Private Utilities**- Private sanitary sewers, storm drains, water facilities, monitoring manholes and other private utilities may be allowed in the ROW provided these general guidelines are satisfied. Private storm connections, such as rain drains to the curb and connections to private stormwater planter boxes are allowed per the Public Works Standards. Private swales and sump systems may be permitted only with Engineering Director approval. In such cases, the owner must sign a maintenance agreement with the City to ensure that the stormwater system is appropriate and that emergency maintenance service will be available to these systems at all times.
- **Electrical Outlets for Street Tree Lights**- Installation of electrical outlets in tree wells may be allowed for powering temporary festive lights in street trees within business districts. The outlet must be at or below sidewalk grade and must not pose a tripping hazard for pedestrians. The arrangement must not restrict growth or damage the tree. The conduit must run perpendicular to the curb and sidewalk and must be marked with locator tape for future underground work. The applicant is required to become a member of the Oregon Utility Notification Center One-Call system, and proof of registration with One-Call is required to obtain an Encroachment Permit.
- **Parklets-** Parklets are permitted within the Right-of-Way as a unique type of encroachment and must comply with the Public Works Standards relating to the design, installation and maintenance.
- **Miscellaneous Structures**- Other encroachment may be allowed with an encroachment permit provided they follow these general guidelines, are in compliance with applicable Public Works Standards and are approved by the Engineering Department. Examples of these include landscape boulders, permanent basketball hoops, street trees and all other structures that would be considered a hazard to motorists or pedestrians. The structure:
    - Must not interfere with ADA requirements or City maintenance.
    - Must not be located with the required clear zone.
    - Must be located a minimum of 2 feet from the curb, 5 feet from hydrants and 3 feet from any utility implement.

Exceptions

Under these general guidelines, the following encroachments do not require a permit application or review by the City. The adjacent property owner is responsible for compliance with all applicable Public Works Standards, maintenance of the encroachment and will be held liable for any damages resulting from said encroachment. The Engineering Director may revoke encroachment permissions if removal is in the best interest of the City. If the removal of an encroachment is required, written notice will be served and land will be return to the public Right-of-Way.

- **Landscaping**- Lawns and plants must not obstruct movement or visibility for pedestrians, bicyclists and motorists.
- **Planter boxes**- Planter boxes in the Frontage Zone (adjacent to buildings) should not be greater than 8 feet in length and 3 feet in height, and should fit entirely within the Frontage Zone of the sidewalk corridor. The planter box should be movable and, in combination with other planter boxes, should take up no more than 30 percent of the length of the building frontage.
- **Irrigation systems**- Only non-pressurized plastic feeder lines and sprinkler heads are allowed in the Right-of-Way. No other part of the irrigation system will be allowed in the Right-of-Way. All parts of the irrigation system must be buried 12 inches below grade, except the sprinkler heads which must be flush with the surface when not in use. The distribution of water should be limited to landscaping as much as possible. Feeder lines beneath the sidewalk shall be installed perpendicular to the sidewalk. The property owner is responsible for installation which does not interfere with utilities, street trees, sidewalks or other public infrastructure. The owner of adjacent property is responsible for any damage to the irrigation system caused by repair, replacement or installation of any utility systems, street or sidewalk facilities or any other permitted Right-of-Way work.
- **Transit shelters**- Transit shelters owned by TriMet may be allowed in the Right-of-Way only under agreement adopted by City Council. Siting is regulated by agreement between TriMet and the City. In design districts, transit shelters in the Right-of-Way may be subject to Design Review.

- **Mailboxes**- Mailboxes and enclosing structures are subject to post office regulations and must be located in compliance with ADA standards. If the proposed encroachment has the ability to obstruct a vehicle in motion, it may be considered a Minor Encroachment.
- **Pre-existing encroachments**- Encroachments which have not been recently modified may be allowed to remain in place as non-conforming encroachments, without requiring an Encroachment Permit provided they are not deemed a public nuisance, modified, damaged, removed or relocated or subject of a complaint.
- **Low voltage illumination**
- **Temporary signs and banners**- Any signs and/or banners must adhere to the sign code.
- **Portable basketball hoops**

ENCROACHMENT PERMITS

A proposed Major or Minor Encroachment into a public Right-of-Way requires an Encroachment Permit from the Engineering Department. The party proposing the encroachment must fill out an application and submit it to the Engineering Director or designee for approval. The application should include any pertinent information regarding the proposed encroachment such as a site plan, construction details and any other information that clearly demonstrates the proposal.

Required Submittals

- A completed Encroachment Permit application.
- A signed petition of all neighboring residents within 200 linear feet in any direction of the boundary of the proposed encroachment must be submitted with the application. The petition must demonstrate an approval ratio of at least 80 percent.
- An encroachment location and context plan which shall include the footprint of the proposed encroachment and existing site features such as curbs, sidewalks and any surface obstructions within 15 feet of the footprint.
- A detailed design plan which shall include the materials to be used and a demonstration of ADA compliance and noninterference with stormwater flow.
- Construction drawings, if applicable, shall include confirmation of all dimensions and materials used in the design and a site plan which identifies construction limits.

Permit Issuance and Appeal Procedure

If the proposal is deemed acceptable, the permit will be issued for a fee to be determined by resolution of City Council. The validity of the permit is contingent on specific maintenance and liability requirements, and the permittee is responsible for compliance with all other applicable City codes and regulations. The permit will be tied to the land, such that future owners are bound to the established permit conditions. At any time, the permit may be revoked if the Engineering Director determines that the removal of the encroachment is in the best interest of the general public.

An applicant or affected owner/occupant of property within 200 linear feet of the boundary of the proposed encroachment can appeal the decision of the Engineering Director or designee with the City Council. The appeal must be filed within 15 days of the date of the decision to be appealed accompanied by a fee in an amount determined by resolution of the City Council. After a public hearing is conducted to address the disagreement, any decision of the City Council will be final.

Standards and Conditions

Standards for Approval

1. All improvements must comply with appropriate Public Works Standards.
2. A minimum clearance shall be maintained on all sides of fire hydrants and utility structures, as specified in the Public Works Standards.
3. The encroachment must be designed for easy removal; permanent fixture to the street, curb or sidewalk is prohibited, unless otherwise approved or required by the approved permit. Similarly, the encroachment must not permanently mark, puncture, indent, crack or otherwise damage public property.
4. Proposed encroachments shall not prevent access to, cover, obstruct or block the flow of water to or into catch basins, ditches or swales, and shall not otherwise alter the natural drainage patterns in a manner that adversely affects other property. Where drainage is involved, the Engineering Director or designee may set specific requirements.
5. Where the adjacent Right-of-Way has been fully improved to its planned dimension with associated curbs, sidewalks, utilities and street trees, an encroachment may be permitted between the property line and the back edge of the sidewalk provided there is a 6 inch minimum clearance between the proposed encroachment and the back edge of the sidewalk and all other standards have been met.
6. Sufficient room for off-street parking and pedestrian travel shall be maintained and the encroachment shall not result in a loss of area needed for parking, vehicular maneuvering, or pedestrian travel.
7. In the case of any barrier encroachment such as walls, boulders or fences, the distance of the encroachment placement from the line of traffic shall be determined according to the clear-zone distance tables found in Chapter 3.1 of the Roadside Design Guide. A crashworthy end treatment is required if the barrier encroachment terminates within the clear-zone or is located in an area where it is likely to be struck by a motorist. The end treatment shall follow the standards in Chapter 8.2 of the Roadside Design Guide.
8. All landscaping elements; such as trees, shrubs, decorative rock, etc., shall allow full visibility at the Right-of-Way intersection for drivers and pedestrians. A clear vision space from 3 to 10 feet above grade is preferred along all streets as stated in the Roadside Design Guide Chapter 10.9.

Conditions

1. When the Finance Director or designee determines that permitting the requested encroachment may subject the city to potential liability, a condition of permit issuance shall be the filing with the city recorder of a policy of insurance and form of policy by an insurance company licensed to do business in the State of Oregon. The policy shall protect the city, its officers, agents and employees, and the abutting property owners, lessees and tenants from any and all claims for injury or damage to persons or property that might result from the placing and/or maintenance of the permitted encroachment. The amount of the insurance policy shall be at least the limits of a public body liability under the Oregon Tort Claims Act. The policy shall also contain a provision that the city recorder shall be notified at least 10 days prior to any cancellation of such insurance. The permittee shall maintain the insurance for the term of the permit issued. Failure to maintain the insurance shall result in automatic revocation of the permit.
2. The Engineering Director or designee may place a time limit on the proposed encroachment as a condition of permit approval.
3. To ensure that Right-of-Way/easement encroachments do not contribute to visual blight or create a safety hazard, conditions of permit approval may include a requirement that the encroachment be appropriately maintained.
4. The City may impose a charge for the use of the public Right-of-Way/easement.

Liability

If the Encroachment Permit is granted, the permittee will be required to show proof of liability insurance. The insurance is intended to protect the public from injuries or damages resulting from any encroachment. For major encroachments, the insurance policy should provide no less than $1,000,000 (one million dollars) in coverage per occurrence. For minor encroachments, the insurance policy should provide $300,000 (three hundred thousand) per occurrence. All encroachment permits should provide not less that $50,000 (fifty thousand) for damage to property and should include the following endorsement:

> “Without prejudice to coverage otherwise existing herein, the City of Milwaukie, its officers, agents, and employees are included as additional insured under this policy as to any claim or claims for injury to person including death, or damage to property, resulting from or growing out of the operations of the permittee within the City of Milwaukie, Oregon."

Installation

The installation shall not begin until the final design approval is received and a permit has been issued. Construction shall not progress beyond specified inspection points without approval from the Engineering Department.

Maintenance

The design, construction, maintenance and removal of the encroachment are the responsibility of the permittee. The encroachment should not, at any point, pose a threat to the safety of the general public; as such, acceptance of the Encroachment Permit application may be contingent on an approved maintenance plan. The validity of the Encroachment Permit will be brought under review if a complaint against the encroachment is filed with the City.

Removal

At any time, encroachment permissions may be revoked by the Engineering Director or designee if it is determined that the removal of the encroachment is in the best interest of the City. Conditions requiring the permanent removal of the encroachment include, but are not limited to: failure to comply with maintenance requirements, reconstruction of the ROW in the interest of the City or circumstances that cause the encroachment to become a public safety hazard. Encroachment removal shall be at the cost of the permittee.

Encroachment into public rights-of-way/easements

The following is a summary of the public rights-of-way/ easements municipal code from the cities of Lake Oswego, Portland and Tigard. Items in the left column were found in multiple cities' codes; items in the right column were found in one city's code.

Encroachments Within Public Rights-of-Way/Easements	
-Permits required for encroachment in public rights-of-way/easements and public property. -Application and fee required. Applications shall include a description of the proposed encroachment, a scale drawing illustrating the nature and extent of the proposed encroachment and its relationship to adjoining properties. The application shall be accompanied by a petition indicating the extent of support for the proposed encroachment by the owners/occupants of the property within 200 linear feet in each direction from the boundary of the proposed encroachment. -A fee in the amount established by resolution of the city council shall be paid at the time of application. -Applications shall be reviewed to determine compliance with City standards.	-Major vs Minor encroachments (Portland)

Exemptions	
-Mailboxes and their enclosing structures. -Temporary signs and banners. -Guard/handrails along edges of driveway approaches, walks, stairs, etc. -Lawns, plants and approved ~~street trees~~. *encroachments shall not be exempt if they create a line of sight traffic hazard.	-Irrigation and low voltage illumination. -Newspaper vending machines. -Awnings and building projections. -Preexisting structures

Types of encroachments not specifically mentioned include: fences, basketball hoops, walls, garden boxes and boulders.

Permit Issuance	
-The city manager or designee may approve, modify and approve or deny the application for an encroachment permit.	

Appeals	
-An applicant or affected owner/occupant of the property within 200 linear feet of the proposed encroachment may appeal the decision of the City Manager or designee. - An appeal must be filed within 15 days of the date of the decision stating the basis for the appeal and shall be accompanied by a fee in an amount established by resolution of the city council. - The city council shall conduct a public hearing on the appeal providing the appellant and any other affected party a reasonable opportunity to be heard on the question of why the decision of the City manager or designee should be reversed or repealed.	

Standards and Conditions	
Standards for approval	
-A minimum of 3ft of clearance shall be maintained on all sides of fire hydrants. -Clearances to water meters shall be 1ft behind and 2ft from the sides measured from the outside edges of the box. The applicant shall pay for the meter relocation if this standard cannot be met. -Clearances between underground utilities such as power, telephone, cable TV and natural landscape materials or structures placed over those facilities shall be provided in writing by the affected utilities. Conditions requested by the utility providers shall be incorporated into the permit. -Proposed encroachments shall not prevent access to, cover or block the flow of water to or into catch basins, ditches or swales, and shall not otherwise alter the natural drainage pattern. Where drainage is involved, the City Manager or designee may set specific requirements. -Where the adjacent street has been fully improved to its planned dimension with associated curbs, sidewalks, utilities and street trees, an encroachment may be permitted between the property line and the back edge of a sidewalk provided there is a 1ft minimum clearance between the proposed encroachment and the back edge of the sidewalk and all other clearance standards have been met.	-Clearances from manholes and underground pipelines such as city sewer lines, water lines, and storm drain lines shall be a minimum of 7 bd ft. -It is determined that the requested encroachment is consistent with the current use of the unimproved public right-of-way, easement or public property.

-Sufficient room for off-street parking and pedestrian travel shall be maintained and the encroachment shall not result in a loss of area needed for parking, vehicular maneuvering or pedestrian travel.	
Conditions	
-If the permitting of the requested encroachment may subject the City to potential liabilities, a condition of permit issuance shall be the filing with the City Recorder of a policy of insurance. The policy shall protect the City. Failure to maintain insurance shall result in automatic revocation of the permit. -The City Manager or designee may place a time limit on the proposed encroachment as a condition of permit approval. -To ensure that right-of-way/easement encroachments do not contribute to visual blight or create a safety hazard, conditions of permit approval may include a requirement that the encroachment be appropriately maintained.	-The city may impose a charge for the use of the unimproved public right-of-way, easement or public property. (Tigard)

Recording of Permits	
-Approved encroachment permits shall be recorded against the title of the benefiting property and the costs of such recording shall be paid by the applicant.	

Revocation of Permits	
-All right-of-way/easement encroachment permits shall be revocable by the City at any time for the sake of serving public interest. -Any permit shall be automatically revoked if the permittee fails to begin installation of the allowed encroachment within 60 days after issuance of the permit unless an extension is requested prior to the expiration of the 60 day period.	

Removal of Encroachment	
-Upon revocation the permittee shall remove the permitted encroachment at the permittee's own cost within 30 days after the written notice has been provided by the City unless a shorter period is specified. -If the permittee fails to remove the encroachment and return the right-of-way/easement area to a condition satisfactory to the City Manager or designee, the City shall do so and the permittee shall be personally liable to the City for any and all costs of returning the right-of-way to a satisfactory condition, imposed as a lien upon the property on the City Lien Docket.	

Liability	
-The permittee shall be liable to any person who is injured or otherwise suffers damage by reason of any encroachment allowed in accordance with the provisions of this section. Furthermore, the permittee shall be liable to the City of Milwaukie for any judgment or expense incurred or paid by the City by reason of the existence of an approved right-of-way/easement encroachment.	

Enforcement	
-Installation or maintenance of an encroachment in violation of the aforementioned codes is a civil violation subject to enforcement. -Installation or maintenance of an encroachment in violation of aforementioned codes is declared to be a public nuisance.	

6.2.

Safe Access for Everyone (SAFE)

Safe Access For Everyone

(SAFE)

The SAFE program focuses on accessible pedestrian networks with the primary objective of achieving ADA compliance and safe routes to school while increasing connectivity and access in the City of Milwaukie.

WHAT IS SAFE?

Safe Access for Everyone (SAFE) is a plan to improve pedestrian and bicycle safety throughout Milwaukie, and identify possible funding sources to accomplish the plan. Working with the Public Safety Advisory Committee (PSAC), a citizen committee with representation from all neighborhood district associations, frequently-used corridors that provide access to critical facilities and facilitate routes to school were given priority.

WHY IS THIS PLAN NEEDED?

The city conducted an inventory of all city sidewalks and ramps to catalog Milwaukie's pedestrian routes and their compliance with Americans with Disabilities Act (ADA) standards. The inventory highlighted that out of the existing 947 ADA ramps along the priority corridors, only about 21 percent comply with federal ADA standards. Furthermore, 298 new ramps need to be constructed along the priority corridors to provide safe and convenient access for people using mobility aids. This means a total of 1,245 ramps must be constructed to meet ADA standards within priority corridors to bring Milwaukie into compliance with federal requirements. In addition to the ADA ramps, 189,540 feet of walkways must be constructed to reach ADA standards within priority corridors.

BACKGROUND

Since 2010, the City of Milwaukie has actively worked on innovative ways to improve the pedestrian environment. In 2014, staff presented a proposal about the need for additional improvements, but the city lacked the financial resources. In 2015, staff presented additional information on the accessibility needs of Milwaukie with a concept for a new program.

City Council charged the PSAC with developing a new ADA Transition Plan. Council asked the group to think about more than just ADA compliance by also incorporating safe route to schools, alternate connections and bicycle needs into a city-wide accessibility plan.

Safe Access For Everyone

PSAC assessed travel corridors throughout Milwaukie, and evaluated the need for updates and improvements to the city-wide pedestrian network. Working closely with the Neighborhood District Associations, PSAC established the location and priority of local projects. Particular focus was given to corridors that facilitate safe routes to schools, connect high-use corridors, and facilities specifically covered by ADA regulations. After 28 public meetings, community feedback, and input from the Citizens Utility Advisory Board (CUAB) about funding options, the plan was developed and presented to Council to accomplish this over the next 25 years.

THE PLAN

SAFE, also known as the Bicycle and Pedestrian Program, and its proposed projects was formally adopted in July 2016, and includes a funding mechanism that is intended to accomplish its goals. Taking into account project requirements, necessary timeframes, multiple funding scenarios, and a comparison with neighboring cities, CUAB proposed a rate to the City Council.

The SAFE charge will be indexed as it is in neighboring cities, which will reduce the initial cost to the customer and adjust for inflation. The charge and units are based on type of property use. For commercial properties, the unit is typically based on square footage; and residential units are the number of dwellings. The charge would result in an additional $4.60 per month for a single family household. Commercial rates vary depending on use.

For more information about calculating your fee, please visit www.milwaukieoregon.gov/commercialfee.

These photos show a corridor before and after improvements. The SAFE program is designed to be flexible in implementation, such that the beauty of our community is preserved while access is enhanced.

ADDITIONAL INFORMATION

For more information about Safe Access For Everyone please visit our SAFE web page:

www.milwaukieoregon.gov/engineering/SAFE

Or contact:

Engineering Department
6101 SE Johnson Creek Blvd
Milwaukie, OR 97206

503.786.7600
engineering@milwaukieoregon.gov

6.3.

Integrated Transportation Plan Project and Bond

CHAPTER 2 **PUBLIC INFRASTRUCTURE**

The Public Infrastructure Capital Improvement Plan identifies the traditional capital improvement needs within the City right-of-way. Projects within this chapter are primarily associated with the transportation, water, wastewater, and stormwater needs of the city.

TRANSPORTATION OVERVIEW

Milwaukie's Transportation system includes over 148 lane miles of pavement, 10.2 miles of bike lanes, 50 miles of sidewalk, and 510 acres of right-of-way that must constantly be maintained and upgraded to safely and efficiently serve all modes of traffic.

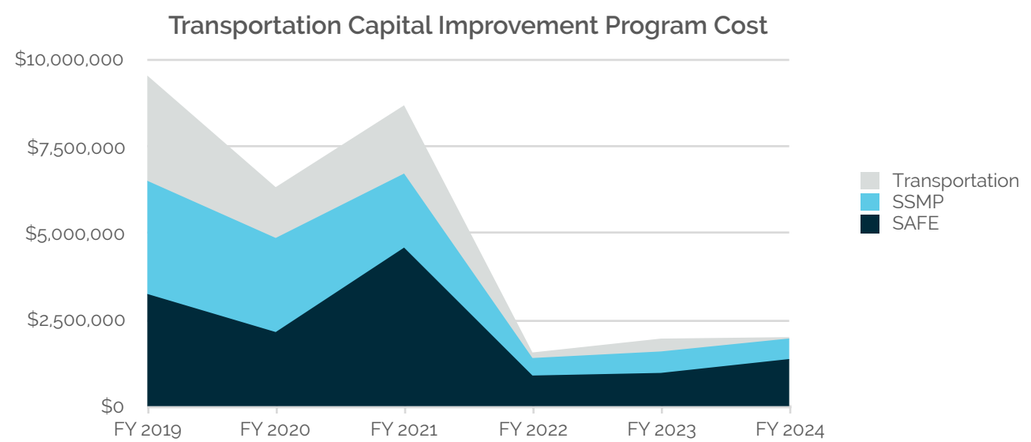
The City of Milwaukie relies on a variety of funding sources for maintaining and improving its transportation infrastructure. Most of these sources are constrained, meaning that they can only be used for a specific function like expanding the system's capacity, paving streets, or building sidewalk or bicycle facilities. The funds also flow into Milwaukie from a variety of sources, most of which are tax based and administered through different levels of government and mechanisms.

The main sources of funding are:

- Federal Gas Tax Funds (Metro Grants)
- City share of State Highway Trust Fund
- Local Funds—Fees and Taxes:
- Franchise Fees, PGE Privilege Tax, Local Gas Tax, Street Surface Maintenance Fee, Safe Access for Everyone (SAFE) Fee
- System Development Charges (SDC's)
- Fee in Lieu of Construction (FILOC) Charges

The CIP is based on the projects identified within the plans and programs that affect all of the modes of travel within the Transportation System. This includes the City Transportation Master Plan, the Street Surface Maintenance Program (SSMP), the Safe Access for Everyone (SAFE), Surface Preservation (Crack and Slurry Seals), and other capitalized maintenance needs.

The Transportation CIP prioritizes projects within each of the Transportation System Programs resulting in a Comprehensive Plan that attempts to balance the systems needs within the available funding parameters.



TRANSPORTATION SUMMARY

PAGE	PROJECT NAME	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	UNFUNDED	TOTALS
20	Transportation Vehicle Purchases	$100,000	$165,000	$85,000	$40,000	$76,250	$100,000	–	$566,250
31	Sign Shop Printer	15,000	–	–	–	–	–	–	15,000
VEHICLES AND EQUIPMENT SUBTOTALS		**$115,000**	**$165,000**	**$85,000**	**$40,000**	**$76,250**	**$100,000**	**–**	**$581,250**

PAGE	PROJECT NAME	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	UNFUNDED	TOTALS
30	Downtown Public Area Requirements (PAR)	$1,588,000	$12,000	$456,600	–	–	–	$905,000	$2,961,600
31	Kellogg Creek Bridge #22142	428,000	–	–	–	–	–	–	428,000
32	Main St Crossing Improvements	217,000	–	–	–	–	–	–	217,000
32	Linwood Ave	175,500	501,500	–	–	–	–	–	677,000
33	SSMP Paving	109,000	–	–	–	–	–	3,525,000	109,000
34	McBrod Ave	–	400,000	–	–	–	–	–	400,000
34	43rd Ave/ Howe/ Covell	–	247,200	736,300	–	–	–	–	983,500
35	Harvey St	–	76,900	219,600	–	–	–	–	296,500
42	SAFE Program	–	237,000	–	–	–	–	2,531,000	2,768,000
120	Ledding Library Improvement Project SDCs	109,000	–	–	–	–	–	–	3,634,000
36	Improved Bike/Ped Connections to Springwater Trail	–	–	239,100	–	–	–	7,994,200	8,233,300
35	Oatfield Rd	–	–	153,400	–	339,600	–	–	493,000
37	Lake Rd/Harmony Rd Intersection	–	–	–	–	–	–	21,260,000	21,260,000
37	NMIA McLoughlin Green St Demonstration	–	–	–	–	–	–	20,726,000	20,726,000
38	Lake Rd Capacity Improvements	–	–	–	–	–	–	10,070,000	10,070,000
111	Kellogg Dam Removal & HWY 99E Underpass	–	–	–	–	–	–	8,900,000	8,900,000
38	Monroe St Neighborhood Greenway	–	–	–	–	–	–	7,835,000	7,835,000
39	Stanley Ave Neighborhood Greenway	–	–	–	–	–	–	6,449,000	6,449,000
39	Railroad Ave Capacity Improvements	–	–	–	–	–	–	5,579,800	5,579,800
39	NMIA Street Improvements	–	–	–	–	–	–	5,506,400	5,506,400
40	Downtown Parking Solutions	–	–	–	–	–	–	4,163,000	4,163,000
41	Hwy 224 & Hwy 99E Improvements	–	–	–	–	–	–	4,008,000	4,008,000
40	Accessibility Program	–	–	–	–	–	–	3,819,000	3,819,000
41	Harrison Capacity Improvements	–	–	–	–	–	–	3,769,000	3,769,000
43	McBrod Ave Green Street	–	–	–	–	–	–	3,762,000	3,762,000

PAGE	PROJECT NAME	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	UNFUNDED	TOTALS
43	Bicycle/Ped Overpass over Railroad Ave	–	–	–	–	–	–	2,736,000	2,736,000
44	Island Station Neighborhood Greenway	–	–	–	–	–	–	2,714,000	2,714,000
44	Intersection Improvements in North Industrial Area	–	–	–	–	–	–	2,261,000	2,261,000
45	Street Connectivity and Intersection Improvement Projects	–	–	–	–	–	–	1,535,000	1,535,000
45	Lake Rd (Where Else to Harmony /Railroad)	–	–	–	–	–	–	1,298,600	1,298,600
45	Ochoco St (17th Ave to McLoughlin)	–	–	–	–	–	–	1,149,000	1,149,000
46	Downtown Transit Center Improvements	–	–	–	–	–	–	1,128,000	1,128,000
46	29th Ave Bike/Ped Connection	–	–	–	–	–	–	400,000	400,000
46	Bicycle Infrastructure Improvements	–	–	–	–	–	–	310,000	310,000
47	37th Ave Pedestrian Improvements	–	–	–	–	–	–	212,000	212,000
47	Kellogg Creek Trail Improvements	–	–	–	–	–	–	87,000	87,000
48	Kelvin/Olsen Bike/Ped Connection	–	–	–	–	–	–	4,000,000	4,000,000
48	NMIA Right-of-Way Road Design	–	–	–	–	–	–	TBD	–
49	Oak St/34th Ave Connection	–	–	–	–	–	–	106,000	106,000
49	Ochoco/Roswell Bike/ Ped Connections	–	–	–	–	–	–	TBD	–
51	Transportation Connectivity	–	–	–	–	–	–	TBD	–
TRANSPORTATION CIP SUBTOTALS		**$2,626,500**	**$1,474,600**	**$1,805,000**	**–**	**$339,600**	**–**	**$138,739,000**	**$144,984,700**

STREET SURFACE MAINTENANCE PROGRAM FUND

PAGE	PROJECT NAME	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	UNFUNDED	TOTALS
33	SSMP Paving	$2,377,800	$1,706,100	$1,407,300	$204,800	$373,200	$577,600	$6,830,200	$13,477,000
50	Street Surface Maintenance Program - Crack Seal	15,000	15,000	15,000	15,000	15,000	15,000	–	90,000
30	Downtown Public Area Requirements (PAR)	743,800	–	–	–	–	–	–	743,800
35	Harvey St	130,200	–	579,000	–	–	–	–	709,200
50	Street Surface Maintenance Program - Slurry Seal	–	500,000	–	–	–	–	1,000,000	1,500,000
34	McBrod Ave	–	464,500	–	–	–	–	–	464,500
34	43rd Ave / Howe /Covell	–	30,700	136,400	–	–	–	–	167,100
39	NMIA Street Improvements	–	–	–	204,800	–	–	–	204,800
35	Oatfield Rd	–	–	–	81,000	231,400	–	–	312,400
47	37th Ave Ped Improvements	–	–	–	–	–	–	91,800	91,800
SSMP FUND TOTALS		**$3,266,800**	**$2,716,300**	**$2,137,700**	**$505,600**	**$619,600**	**$592,600**	**$7,922,000**	**$17,760,600**

SAFE FUND

PAGE	PROJECT NAME	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	UNFUNDED	TOTALS
40	Accessibility Program	$175,100	$683,300	$451,800	$579,100	$273,300	$281,500	$896,200	$3,340,300
42	SAFE Program	994,700	1,466,600	1,950,600	–	475,600	639,100	9,620,000	15,146,600
50	Kronberg Park Trail	1,277,000	–	–	–	–	–	–	1,277,000
39	Railroad Ave Capacity Improvements	37,700	–	–	–	–	–	458,000	495,700
35	Harvey St	130,600	–	373,300	–	–	–	–	503,900
34	43rd Ave/Howe/Covell	209,700	–	599,200	–	–	–	–	808,900
32	Linwood Ave	424,500	–	1,212,800	–	–	–	–	1,637,300
35	Oatfield Rd	–	–	–	77,500	221,200	–	–	298,700
39	NMIA Street Improvements	–	–	–	80,700	–	–	–	80,700
46	Bicycle Infrastructure Improvements	–	–	–	157,600	–	450,400	–	608,000
38	Lake Rd Capacity Improvements	–	–	–	–	–	–	832,000	832,000
38	Monroe St Neighborhood Greenway	–	–	–	–	–	–	695,000	695,000
39	Stanley Ave Neighborhood Greenway	–	–	–	–	–	–	483,000	483,000
44	Island Station Neighborhood Greenway	–	–	–	–	–	–	357,600	357,600
37	Lake Rd / Harmony Rd Intersection	–	–	–	–	–	–	350,000	350,000
45	Ochoco St (17th Ave to McLoughlin)	–	–	–	–	–	–	248,300	248,300
43	Bicycle and Ped Overpass over Railroad Ave	–	–	–	–	–	–	226,000	226,000
45	Lake Rd (Where Else to Harmony/Railroad)	–	–	–	–	–	–	215,400	215,400
47	37th Ave Ped Improvements	–	–	–	–	–	–	240,600	240,600
SAFE FUND TOTALS		**$3,249,300**	**$2,149,900**	**$4,587,700**	**$894,900**	**$970,100**	**$1,371,000**	**$14,622,100**	**$27,845,000**

TRANSPORTATION SDC SUMMARY

PAGE	PROJECT NAME	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	UNFUNDED	TOTALS
77	SDC Rate Study	$100,000	–	–	–	–	–	–	$100,000
38	Monroe Street Neighborhood Greenway	321,900	–	–	–	–	–	–	321,900
60	17th Ave Multi-Use Path	286,000	–	–	–	–	–	–	286,000
39	Railroad Ave Capacity Improvements	–	437,000	–	–	–	–	–	437,000
30	Downtown Public Area Requirements (PAR)	–	–	100,000	600,000	–	–	–	700,000
77	Transportation Master Plan	–	–	–	–	–	–	300,000	300,000
TRANSPORTATION SDC FUND TOTALS		**$707,900**	**$437,000**	**$100,000**	**$600,000**	**–**	**–**	**$300,000**	**$2,144,900**

GRANT SUMMARY

PAGE	PROJECT NAME	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	UNFUNDED	TOTALS
50	Kronberg Trail	$986,000	–	–	–	–	–	–	$986,000
31	Kellogg Creek Bridge	130,000	–	–	–	–	–	–	130,000
32	Main Street Crossing	181,000	–	–	–	–	–	–	181,000
39	Stanley Ave Greenway	–	–	–	–	–	–	200,000	200,000
TRANSPORTATION SDC FUND TOTALS		**$1,297,000**	**–**	**–**	**–**	**–**	**–**	**$200,000**	**$1,497,000**

DOWNTOWN PUBLIC AREA REQUIREMENTS (PAR)

Construct the right-of-way to comply with the General Circulation Requirements, the Street Standards, and the Design Details as put forth in the Public Area Requirements document to complete the downtown refinement plan and implement the Milwaukie Downtown and Riverfront Plan with a specific focus on completing improvements on Main St between Hwy 224 and the connection to Lake Rd, intersecting streets including but not limited to Harrison, Jackson, Jefferson, Monroe and Washington streets and frontage along McLoughlin Blvd.

Funded:
- South Downtown Plaza
- Washington (McLoughlin-21st)
- Main (Washington-21st)
- Harrison (21st-23rd, North side)

Sources: TSP, RTP (10100)

Operating Budget Impact: Project potentially increases maintenance requirements with the addition of water quality facilities.

Submitted by: Engineering, Community Development

STATUS	FUNDING SOURCE	2016 COST	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Funded	Transportation	$1,315,000	$1,588,000	$12,000	$456,600	–	-	–	$2,056,600
Funded	SSMP	n/a	$743,800	–	–	–	–	–	$743,800
Funded	Stormwater	n/a	–	–	$91,300	–	–	–	91,300
Funded	SDC's	$421,000	–	–	$100,000	$600,000	–	–	$700,000
Funded	URA	$424,000	–	–	–	$424,000	–	–	$424,000
Unfunded	Transportation	$905,000	–	–	–	–	–	–	$905,000
Unfunded	URA	$10,876,000	–	–	–	–	–	–	$10,876,000

SIGN SHOP – SIGN PRINTER AND SOFTWARE

The sign shop creates most signs (stop, yield, cross walk, parking, etc.) within the city. Current sign printer and software are no longer supported on current computer operating systems.

Source: City Staff

Operating Budget Impact: There will an increase for annual maintenance. As an estimate, the annual cost will be 10% of the total purchase price per year.

Submitted by: Public Works

STATUS	FUNDING SOURCE	2016 COST	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Funded	Transportation	-	$15,000	-	-	-	-	-	$15,000

KELLOGG CREEK BRIDGE #22142

The access bridge to Riverfront Park and the boat dock was damaged by the storm event of December 6th–23rd 2015. The existing structure will be replaced with a new vehicular bridge that will also accommodate pedestrians and connect Riverfront Park with the Kellogg Creek and Trolley Trail.

Source: FEMA Emergency

Operating Budget Impact: This project will reduce operating expenditures and address several long-term maintenance issues.

Submitted by: Engineering

STATUS	FUNDING SOURCE	2016 COST	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Funded	Transportation	–	$428,000	–	–	–	–	–	$428,000
Funded	Transportation-CCSD #1	–	$130,000	–	–	–	–	–	$130,000

MAIN ST CROSSING IMPROVEMENTS

This project will make additional required improvement to Main St under Union Pacific Railroad and TriMet structures to comply with new rail order. Work includes new advanced warning signs and devices to protect the railroad bridge.

Source: TriMet Light Rail

Operating Budget Impact: This project will have a minor increase in operational expenses by adding warning signals to the network.

Submitted by: Engineering

STATUS	FUNDING SOURCE	2016 COST	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Funded	Transportation - TriMet	–	$181,000	–	–	–	–	–	$181,000
Funded	Transportation	–	$217,000	–	–	–	–	–	$217,000

LINWOOD AVE (MONROE TO HARMONY)

Fill in sidewalk gaps on both sides of street, replace portions of existing sidewalk, and remove barriers. Improve bicycle facilities by adding / improving bike lanes. Construct median diverter and refuge island at Monroe St, install new hybrid beacon crosswalks, curb extensions, and signage at Monroe St. Install RRFB at Furnberg & Linwood Ave and at Aspen & Linwood. Add storm and water quality facilities and replace outlet through Linwood Elementary school property.

Source: RTP (11671)

Operating Budget Impact: This project will potentially increase ongoing operational needs due to the addition of new infrastructure.

Submitted by: Engineering

STATUS	FUNDING SOURCE	2016 COST	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Funded	SAFE	$1,046,000	$424,500	-	$1,212,800	-	-	-	$1,637,300
Funded	Transportation	$285,000	$175,500	$501,500	–	–	–	–	$677,000
Funded	Storm	–	–	$253,200	$620,000	–	–	–	$873,200

STREET SURFACE MAINTENANCE PROGRAM (SSMP) - PAVING

This paving program began in 2006 and set out to resurface or reconstruct all the City's arterials and collectors. Once the original goal is completed, the program will begin to focus on the City in a more holistic manner, addressing the needs that are the most cost effective to the entire network, and integrating the SSMP Program to all other Capital Improvement Plans, paying particular attention to the SAFE Program needs.

Sources: SSMP, PCI

Operating Budget Impact: Program would decrease ongoing operational needs by restoring transportation network to good condition.

Submitted by: Engineering

SSMP Program Streets:

- 29th Ave from Balfour St to city limits;
- 40th Ave from Harvey to King Rd;
- 42nd Ave from Monroe St to King Rd; ***
- 43rd Ave from Covell St to King Rd; **
- 49th Ave from Willow St to Harvey St;
- 50th Ave from Willow St to Harvey St;
- 55th Ave from south end to Firwood St;
- Covell St from 42nd Ave to 43rd Ave; **
- Fieldcrest Dr from Fieldcrest St to east end of Fieldcrest St;
- Fieldcrest St from 42nd to Fieldcrest Dr;
- Harvey St from 32nd Ave to 42nd Ave; **
- Harvey St from 49th Ave to 50th Ave;
- Howe St from 42nd Ave to 43rd Ave; **
- International Way from 37th Ave to Lake Rd;
- Lake Rd from 21st Ave to 34th Ave; *
- Leone Lane from 50th Ave to end;
- Mailwell Dr from Main St to UPRR; **
- Main St from Washington St to UPRR;
- McBrod Ave from 17th Ave to Ochoco St; ***
- Omark Dr from Mailwell Dr to end;
- Railroad Ave from 32nd Ave to Oak St; ***
- Shell Lane from Lake Rd to end;
- Stanley Ave from Railroad Ave to Lloyd St;
- Washington St from UPRR to 35th;
- Willow St from 48th Ave to 50th Ave; and
- Wood Ave from Monroe St to Railroad Ave. ***

Phase 1 SAFE Streets:

- 22nd Ave from McLoughlin Blvd to Sparrow St;
- 39th Ave from Roswell St to Wake St;
- Edison St from HWY 224 to 35th Ave;
- Home Ave from King Rd to Railroad Ave;
- King Rd from 40th Ave to 43rd Ave;
- Lake Rd from 34th to Guilford Dr;
- River Rd from McLoughlin Blvd to City Limits; and
- Wake St from 32nd Ave to cul de sac.

Phase 2 SAFE Streets (Unfunded):

- 26th Ave from Lake Rd to Lake Village Apartments;
- 27th Ave from Lake Rd to Washington St;
- 28th Ave from Sherrett St to Van Water St;
- 32nd Ave from Railroad Ave to city limits; ****
- 35th Ave from Washington St to Edison St;
- 56th Ave from north end to south end;
- Balfour St from 32nd Ave to west end; ****
- International Way from 37th Ave to Lake Rd;
- Lava Dr from 17th Ave to Waverly Ct;
- Lloyd St from 56th Ave to Stanley Ave;
- Logus Rd from 43rd Ave to 49th Ave; ****
- Main St from Harrison St to Ochoco St; ****
- Mason Lane from 42nd Ave to Regents Dr;
- Oak St from Washington St to Monroe St; ****
- Ochoco St from McLoughlin Blvd to Main St;
- Park St from Home Ave to Beckman Ave;
- Railroad Ave from Oak St to 32nd Ave; ****
- Sparrow St from 22nd Ave to Trolley Trail; ****
- Van Water St from 28th Ave to 32nd Ave; and
- Waverly Ct from Lava Dr to Highlands Apartments Entrance.

* *Original SSMP Project*

** *Original SSMP Project combined with SAFE Project*

*** *Original SSMP Project combined with another CIP Project*

**** *Design Only Funded*

STATUS	FUNDING SOURCE	2016 COST	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Funded	SSMP	–	$2,377,800	$1,706,100	$1,407,300	$204,800	$373,200	$577,600	$6,646 ,800
Funded	Transportation	–	$109,000	–	–	–	–	–	$109,000
Unfunded	SSMP	$4,625,200	–	–	–	$689,000	$677,000	$839,000	$6,830,200
Unfunded	Transportation	–	$300,000	$300,000	$300,000	$875,000	$875,000	$875,000	$3,525,000

MCBROD AVE (OCHOCO TO 17TH AVE)

Reconstruct McBrod Ave, fill in sidewalk gaps along east side, remove barriers, add ADA improvements, improve storm system, rail crossing upgrades, new asphalt surfacing, replace waterline, and wastewater upgrades.

Sources: WMP, SSMP

Operating Budget Impact: This project will potentially increase ongoing operational needs due to the addition of new infrastructure.

Submitted by: Engineering

STATUS	FUNDING SOURCE	2016 COST	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Funded	SSMP	–	–	$464,500	–	–	–	–	$464,500
Funded	Transportation	–	–	$400,000	–	–	–	–	$400,000
Funded	Water	–	–	$800,000	–	–	–	–	$800,000
Funded	Wastewater	–	–	$25,000	–	–	–	–	$25,000
Funded	Storm	–	–	$179,900	–	–	–	–	$179,900

43RD AVE/HOWE/COVELL (KING TO 42ND AVE)

Fill in sidewalk gaps on both sides of street, replace portions of existing sidewalk, and remove barriers. Widen and reconstruct roadway surface to include bike lanes. Install storm and water quality facilities and wastewater improvements.

Sources: RTP (11625), BPAP, SSMP, TSP

Operating Budget Impact: This project will potentially increase ongoing operational needs due to the addition of new infrastructure.

Submitted by: Engineering, Public Works

STATUS	FUNDING SOURCE	2016 COST	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Funded	SAFE	–	$209,700	–	$599,200	–	–	–	$808,900
Funded	SSMP	–	$30,700	$136,400	–	–	–	–	$167,100
Funded	Storm	–	–	$362,500	–	–	–	–	$362,500
Funded	Transportation	–	–	$247,200	$736,300	–	–	–	$983,500
Funded	Wastewater	–	–	–	$114,000	–	–	–	$114,000

HARVEY ST (32ND AVE TO 42ND AVE)

Fill in sidewalk gaps on both sides of street, replace portions of existing sidewalk, and remove barriers. Reconstruct roadway surface, install traffic calming improvements, and improve bicycle connections. Replace water line between 32nd and 42nd, install stormwater and water quality facilities, and wastewater repairs (MH 1222-MH 1220).

Sources: BPAP, SSMP, RTP (11174), TSP, WMP

Operating Budget Impact: This project will potentially increase ongoing operational needs due to the addition of new infrastructure.

Submitted by: Engineering, Public Works

STATUS	FUNDING SOURCE	2016 COST	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Funded	SAFE	$362,261	$130,600	–	$373,300	–	–	–	$503,900
Funded	Transportation	$232,000	–	$76,900	$219,600	–	–	–	$296,500
Funded	SSMP	$374,769	$130,200	–	$579,000	–	–	–	$709,200
Funded	Water	–	–	–	$860,000	–	–	–	$860,000
Funded	Stormwater	–	–	–	$316,500	–	–	–	$316,500
Funded	Wastewater	–	–	–	$65,000	–	–	–	$65,000

OATFIELD RD (LAKE RD TO KELLOGG CREEK)

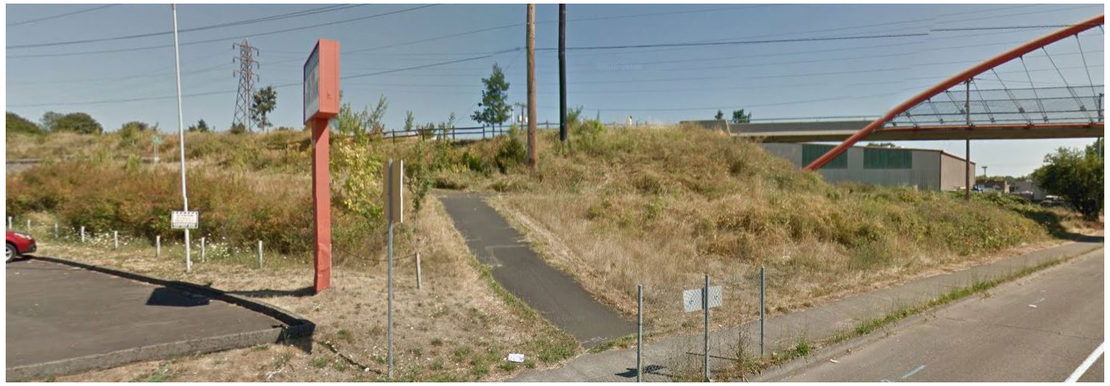
Fill in sidewalk gaps on both sides of street, remove barriers, fill in gaps in bicycle network, add bike lanes, resurface street, and add stormwater and water quality facilities.

Sources: SAFE, TSP, RTP (11541)

Operating Budget Impact: This project will potentially increase ongoing operational needs due to the addition of new infrastructure.

Submitted by: Engineering

STATUS	FUNDING SOURCE	2016 COST	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Funded	SAFE	$202,400	–	–	–	$77,500	$221,200	–	$298,700
Funded	Transportation	$401,000	–	–	$153,400	–	$339,600	–	$493,000
Funded	SSMP	$211,700	–	–	–	$81,000	$231,400	–	$312,400
Funded	Stormwater	–	–	–	–	–	$98,600	–	$98,600



IMPROVED BIKE/PEDESTRIAN CONNECTIONS TO SPRINGWATER TRAIL

Enhance bicycle and pedestrian facilities within residential neighborhood and establish bicycle and pedestrian connections from Springwater Trail to Tacoma Station Area.

- Improved Connection from Springwater Trail to Pendleton Site (Ramps)
  = Construct ramps to improve existing connection of Springwater Trail to Pendleton site at Clatsop St. (TSAP)
- Improved Connection from Springwater Trail to Pendleton Site (Widened Undercrossing)
  = Widen existing undercrossing to improve connection of Springwater Trail to Pendleton site at Clatsop St.
- Improved Connection from Springwater Trail to Tacoma Station
  = Construct stairs to connect Springwater Trail to Tacoma station.
- Improved Connection from Springwater Trail to Pendleton Site (Tunnel)
  = Construct tunnel under Springwater Trail to improve connection to Pendleton site at Clatsop St.
- Improved Connection from Springwater Trail to McLoughlin Blvd
  = Construct stairs or other facility to connect Springwater Trail to west side of McLoughlin Blvd.
- Springwater Trail Completion
  = Contribute to regional project to complete Springwater Trail ("Sellwood Gap") along Ochoco St.
- Bicycle/Pedestrian Improvements to Main St
  = Construct multiuse path or other improved bike/ped facilities to Main St to provide safer connection between downtown and Tacoma station.
- Bicycle/Pedestrian Connection over Johnson Creek
  = Construct bike/ped bridge over Johnson Creek along Clatsop St at 23rd Ave to connect Tacoma station area with adjacent neighborhood.
- Improved Bicycle/Pedestrian Connections on West Side of Tacoma Station Area
  = Improve bike/ped connections to adjacent neighborhood to west of Tacoma station area at Ochoco St and Milport Rd (TSAP).

Funded: Main St (Harrison to Ochoco) Design

Sources: TSP, RTP (11174), TSAP, NMIA

Operating Budget Impact: This project will potentially increase ongoing operational needs due to the addition of new infrastructure.

Submitted by: Engineering

STATUS	FUNDING SOURCE	2016 COST	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Funded	Transportation	$232,000	–	–	$239,100	–	–	–	$239,100
Unfunded	Transportation	$7,994,200	–	–	–	–	–	–	$7,994,200

LAKE ROAD / HARMONY ROAD INTERSECTION

Railroad crossing and intersection improvements based on further study of intersection operations, including bicycle and pedestrian facilities to be undertaken jointly by the City of Milwaukie and Clackamas County.

Source: RTP (10000)

Operating Budget Impact: This project will potentially increase ongoing operational needs due to the addition of new infrastructure.

Submitted by: Engineering / Clackamas County

STATUS	FUNDING SOURCE	2016 COST	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Unfunded	SAFE	$350,000	–	–	–	–	–	–	$350,000
Unfunded	Transportation	$21,260,000	–	–	–	–	–	–	$21,260.000

NMIA MCLOUGHLIN GREEN STREET DEMONSTRATION

Partner with ODOT to develop a green street demonstration project for McLoughlin Blvd between Downtown Milwaukie and the Springwater Corridor Pedestrian Bridge.

Source: NMIA

Operating Budget Impact: Unfunded to date.

Submitted by: Community Development, Planning, Engineering, Public Works

STATUS	FUNDING SOURCE	2016 COST	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Unfunded	Transportation	$20,726,000	–	–	–	–	–	–	$20,726,000

LAKE ROAD CAPACITY IMPROVEMENTS

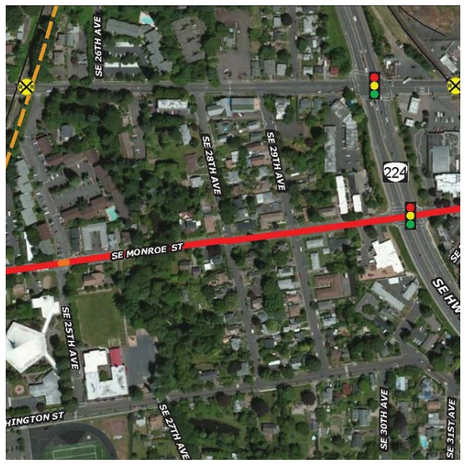
Widen Lake Rd to become a standard three lane cross section between 23rd Ave and Guilford Dr. Add bike lanes and storm water treatment facilities. Project addresses gaps in the city bicycle network and reduces congestion and improve safety.

Sources: TSP, RTP (11534 and 11957)

Operating Budget Impact: Project would increase maintenance expenses due to the addition of water quality facilities.

Submitted by: Engineering

STATUS	FUNDING SOURCE	2016 COST	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Unfunded	SAFE	$832,000	–	–	–	–	–	–	$832,000
Unfunded	Transportation	$10,070,000	–	–	–	–	–	–	$10,070,000



MONROE ST NEIGHBORHOOD GREENWAY

The Monroe Street Greenway will provide a key east-west connection between the Trolley Trail and Downtown Milwaukie with the I-205 Trail and Clackamas Town Center. The Greenway will provide key pedestrian connection through the city, with connections to the future 29th Ave Greenway and Railroad Ave Trail. It will also provide for a key Safe Route to School for Milwaukie High School and a connection with Central Milwaukie businesses. Phase 1 improvements for the Monroe Street Greenway will implement the design concepts developed under an Oregon Department of Transportation grant and are expected to include lane striping, signage, and the application of sharrows. The project consists of a planning phase and with opportunities for funding five construction phases, from multiple sources.

Sources: Monroe Street Neighborhood Greenway Plan, CMTP, URAP, TSP, RTP (10099)

Operating Budget Impact: This project will potentially increase ongoing operational needs due to the addition of new infrastructure.

Submitted by: Community Development, Engineering

STATUS	FUNDING SOURCE	2016 COST	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Funded	Transportation SDC	$294,600	$321,900	–	–	–	–	–	$321,900
Unfunded	SAFE	$695,000	–	–	–	–	–	–	$695,000
Unfunded	URA	$1,800,000	–	–	–	–	–	–	$1,800,000
Unfunded	Transportation	$7,835,400	–	–	–	–	–	–	$7,835,400

STANLEY AVE NEIGHBORHOOD GREENWAY

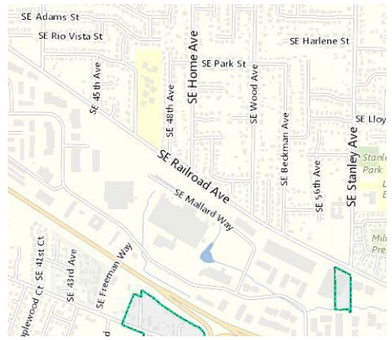
Fill in sidewalk gaps on both sides of street, provide for bicycles with design to accommodate a neighborhood greenway, and install traffic-calming improvements. Project needs planning effort to determine desired design concept.

Sources: TSP, RTP (10097)

Operating Budget Impact: Unknown

Submitted by: Engineering

STATUS	FUNDING SOURCE	2016 COST	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Unfunded	Grant TGM, Etc.	$200,000	–	–	–	–	–	–	$200,000
Unfunded	SAFE	$483,000	–	–	–	–	–	–	$483,000
Unfunded	Transportation	$6,449,000	–	–	–	–	–	–	$6,449,000



RAILROAD AVE CAPACITY IMPROVEMENTS

This project will have a pedestrian component and a public transit component. The pedestrian aspect involves the construction of a new multi-use path located along one side of Railroad Ave between 37th Ave and Harmony Rd. The public transit aspect involves providing bus service which will extend to the Clackamas Town Center and points further east. The purpose of the project is to address gaps in the pedestrian and bicycle systems and improve transit facilities.

Preliminary Engineering

Sources: TSP, RTP (10095), SAFE

Operating Budget Impact: Project would add additional infrastructure with the creation of a new multi-use path.

Submitted by: Engineering

STATUS	FUNDING SOURCE	2016 COST	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Funded	SAFE	$34,500	$37,700	–	–	–	–	–	$37,700
Unfunded	SAFE	$458,400	–	–	–	–	–	–	$458,400
Funded	Transportation SDC	$388,200	–	$437,000	–	–	–	–	$437,000
Unfunded	Transportation	$5,579,800	–	–	–	–	–	–	$5,579,800

NMIA STREET IMPROVEMENTS

Construct street improvements on Stubb St, Beta St, Ochoco St, Hanna Harvester Dr, and Mailwell Dr. (TSAP). Reconfigure the Moores/Ochoco/23rd Ave area to be more navigable and easier to develop adjacent properties. The purpose is to improve street connectivity and enhance auto and freight facilities.

Funded: Mailwell (Main – UPRR)

Sources: RTP (11624), NMIA

Operating Budget Impact: Potentially increases operating impacts due to new infrastructure improvements.

Submitted by: Community Development

STATUS	FUNDING SOURCE	2016 COST	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Funded	SAFE	–	–	–	–	$80,700	–	–	$80,700
Funded	SSMP	–	–	–	–	$204,800	–	–	$204,800
Unfunded	Transportation	$5,506,400	–	–	–	–	–	–	$5,506,400

DOWNTOWN PARKING SOLUTIONS

Implement parking management strategy for the downtown including parking meters, signage, enforcement and potentially assistance in the development of structured parking as part of a larger mixed-use development that would service downtown uses. Construct 3- to 4-story public parking structure with retail at ground floor for visitor/employee parking. The purpose is to expand off-street parking supply downtown.

Sources: TSP, RTP (11175)

Operating Budget Impact: This project will increase operational expenses by adding infrastructure.

Submitted by: Engineering, Community Development

STATUS	FUNDING SOURCE	2016 COST	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Unfunded	Transportation	$4,163,000	–	–	–	–	–	–	$4,163,000
Unfunded	URA	$10,500,000	–	–	–	–	–	–	$10,500,000

ACCESSIBILITY PROGRAM

This project will implement the Barrier Removal Program and Accessible Pedestrian Signal Upgrades within the Bicycle and Pedestrian Accessibility Plan which includes elements within the ADA Transition Plan throughout the City. Project includes removing barriers within existing sidewalks, constructing or reconstructing sidewalks, signals at 32nd Ave and Harrison St, Lake Rd and Oatfield Rd, and PCC and Johnson Creek, and constructing ADA sidewalk access ramps. Retrofit existing signals, install accessible pedestrian signals, and rapid flashing beacons at specific intersections to improve pedestrian access and safety. Projects will require relocation of storm facilities and construction of water quality facilities.

Sources: SAFE, RTP (11621 & 11540)

Operating Budget Impact: This project will potentially increase maintenance and operating expenses.

Submitted by: Engineering

STATUS	FUNDING SOURCE	2016 COST	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Funded	SAFE	$2,118,000	$175,100	$683,300	$451,800	$579,100	$273,300	$281,500	$2,444,100
Funded	Storm	–	$35,000	$136,600	$90,400	$115,800	$54,400	$56,300	$488,500
Unfunded	Transportation	$3,819,000	–	–	–	–	–	–	$3,819,000
Unfunded	SAFE	$896,200	–	–	–	–	–	–	$896,200

HWY 224 & HWY 99E IMPROVEMENTS

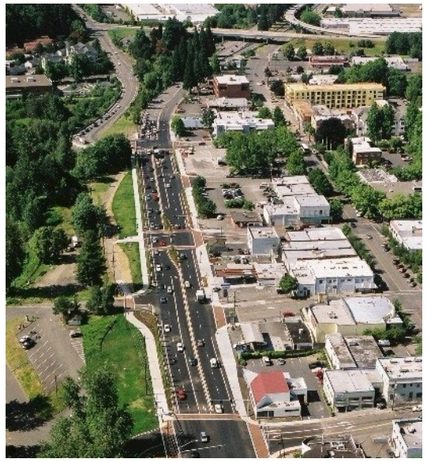
Planning: Hwy 224 & Hwy 99E Refinement Plan
Conduct refinement study to establish alternative mobility targets for Hwy 224 and McLoughlin Blvd for locations not meeting applicable state targets, and explore ways to minimize barrier effect and improve pedestrian, auto and freight mobility.

Hwy 224 Upgrades

- Pedestrian Improvements at Hwy 224: This project will reconfigure the intersections of Harrison St, Oak St, 37th Ave, and Freeman Way at Hwy 224 by adding left turn lanes and protected signal phasing on the local streets together with reconfiguring the intersections as needed to improve overall intersection functioning.

Hwy 99 Upgrades

- East Sidewalk Improvements: Improve the east sidewalk from North of Harrison St to Hwy 224. These improvements are to enhance pedestrian safety and signal visitors that they are entering downtown.
- Sidewalks from Harrison St to UPRR: Address gaps in pedestrian system and improve connection between downtown and riverfront park. Provide grade separated crossing.
- Crosswalk/Intersection Upgrades: Improve all existing crossings of McLoughlin Blvd, using better signage and extended crossing times and distinctive crosswalk paving. Construct improvements at Harrison St, Monroe St, Jackson St, Jefferson St, and Washington St to enhance bike/pedestrian crossings to the Trolley Trail and the Park.
- Intersection improvements at McLoughlin Blvd and River Rd: Consolidate a single access point for the area at Bluebird St with full intersection treatment and signalization or add second northbound left-turn lane at River Rd to reduce congestion and improve safety.
- Construct multi-use walkway from McLoughlin Blvd to Kronberg Park Walkway south of UPRR to complete pedestrian connection.



Sources: TSP, RTP (11620, 11537, 10098, 11539, 11623), URAP, DRFP

Operating Budget Impact: N/A

Submitted by:
Engineering, Community Development

STATUS	FUNDING SOURCE	2016 COST	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Unfunded	URA	$5,000,000	–	–	–	–	–	–	$5,000,000
Unfunded	Transportation	$4,008,000	–	–	–	–	–	–	$4,008,000

HARRISON CAPACITY IMPROVEMENTS (32ND AVE TO 42ND AVE)

Widen to standard three lane cross-section with bike lanes, filling in last portion of on-street bike lanes along one of the City's principle arterials.

Sources: TSP, RTP (11542)

Operating Budget Impact: Unknown

Submitted by: Engineering

STATUS	FUNDING SOURCE	2016 COST	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Unfunded	Transportation	$3,769,000	–	–	–	–	–	–	$3,769,000

SAFE PROGRAM

This city-wide program is for sidewalk improvements to remove sidewalk barriers or to accommodate barriers within the sidewalk by modifying the sidewalk. This project is necessary for ADA compliance. Barriers include fire hydrants, mailboxes, utility poles, street signs or other obstructions to pedestrian travel. This would also fill in sidewalk gaps or construct new sidewalks, as necessary, to maintain an accessible sidewalk system. Projects would require relocation of water and stormwater utilities in addition to water quality facilities.

Sources: SAFE, RTP (11540, 11174, 11671, 11535, 10099, 11623, 11541, 11621, 11954)

Operating Budget Impact: Potential increase in maintenance expenses with addition of new infrastructure but may be offset by reconstruction of existing infrastructure.

Submitted by: Engineering

Phase 1 Streets:

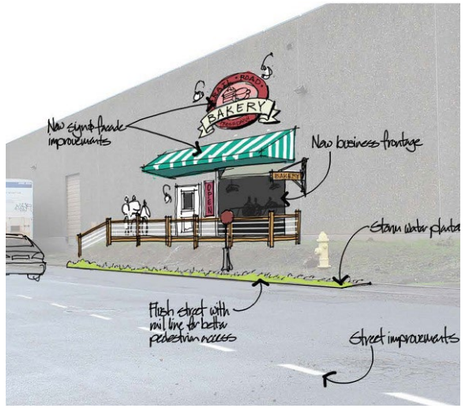
- 22nd Ave from McLoughlin Blvd to Sparrow St;
- 42nd Ave from Johnson Creek Blvd to Harvey St;
- 36th Ave/39th Ave/Wake St/Ardenwald Path from Roswell St to Olsen St;
- Edison St from Hwy 224 to 35th Ave;
- Home Ave from King Rd to Railroad Ave;
- King Rd from 40th Ave to Linwood Ave;
- Lake Rd from 34th Ave to Guilford;
- Monroe St from 25th Ave to 28th Ave;
- River Rd from McLoughlin Blvd to City Limits; and
- Sellwood St/30th Ave/Madison St from 35th Ave to Milwaukie Elementary School.

Phase 2 Streets (Unfunded):

- 26th Ave from Lake Rd to Lake Village Apartments;
- 27th Ave from Lake Rd to Washington St;
- 28th Ave/Van Water St from Springwater corridor to 32nd Ave;
- 32nd Ave/Railroad Ave from Van Water St to Oak St;
- Balfour St from 32nd Ave to Balfour Park;
- Harmony Rd from International Way to Linwood;
- Harmony Rd from Linwood to City Limits;
- International Way from 37th Ave to Lake Rd; *
- Lava Dr/Waverly Ct from 17th Ave to Highlands Apartments Entrance;
- Logus Rd from 43rd Ave to 49th Ave;
- Main St/Ochoco St from Harrison St to McLoughlin Blvd;
- Mason Ln from 42nd Ave to Regents Dr;
- Oak St from Washington St to Monroe St;
- Park St/Beckman Ter/56th Ave/ Lloyd St from Home Ave to Stanley Ave;
- Sparrow St from 22nd Ave to Trolley Trail;
- Washington St/35th Ave from McLoughlin Blvd to Edison St; * and
- Mailwell from Main St to UPRR. *

** Project Funded*

STATUS	FUNDING SOURCE	2016 COST	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Funded	SAFE	$4,787,200	$994,700	$1,466,600	$1,950,600	–	$475,600	$639,100	$5,607,400
Funded	Water Fund	n/a	$14,000	$35,000	$30,000	$65,000	$64,000	$46,000	$254,000
Funded	Storm Fund	n/a	$15,000	$687,500	$291,800	$108,000	$237,000	$48,000	$1,387,300
Funded	Transportation	$210,600	–	$237,000	–	–	–	–	$237,000
Unfunded	Transportation	$2,531,000	–	–	–	–	–	–	$2,531,000
Unfunded	SAFE	$5,169,200	–	–	–	$1,956,400	$1,686,400	$808,500	$9,620,300



MCBROD AVE GREEN STREET

Develop SE McBrod Ave as a demonstration project that integrates green street/shared facility approaches to treat both right-of-way and adjacent development. Project would include continuous at grade rail line, required reconstruction of existing rail infrastructure, together with the construction of an activated area between the rail line and the buildings.

Source: NMIA

Operating Budget Impact: Unknown rail impact

Submitted by: Community Development

STATUS	FUNDING SOURCE	2016 COST	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Unfunded	Grants, LID, Urban Renewal	$3,762,000	–	–	–	–	–	–	$3,762,000

BICYCLE AND PEDESTRIAN OVERPASS OVER RAILROAD AVE

Establish a dedicated bicycle and pedestrian connection across Railroad Ave and the railroad tracks that connects Railroad Ave with International Way and connections to transit. The purpose of this project is to improve north-south bicycle and pedestrian connections, and enhance the accessibility to transit and the Milwaukie Business Employment area.

Sources: TSP, RTP (11533), SAFE

Operating Budget Impact: Project would add infrastructure by constructing a new multi-use path.

Submitted by: Engineering

STATUS	FUNDING SOURCE	2016 COST	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Unfunded	SAFE	$226,000	–	–	–	–	–	–	$226,000
Unfunded	Transportation	$2,736,000	–	–	–	–	–	–	$2,736,000

ISLAND STATION NEIGHBORHOOD GREENWAY

Designate 19th Ave and Sparrow St as a neighborhood greenway and install traffic-calming improvements, utilizing a woonerf design together with typical traffic calming features, designated path and on street measures connecting the south end of Kellogg Creek Trail with the Trolley Trail via 19th Ave and Sparrow St.

Sources: TSP, RTP (11622)

Operating Budget Impact: This project will potentially increase ongoing operational needs due to the addition of new infrastructure.

Submitted by: Engineering

STATUS	FUNDING SOURCE	2016 COST	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Unfunded	SAFE	$357,600	–	–	–	–	–	–	$357,600
Unfunded	Transportation	$2,714,000	–	–	–	–	–	–	$2,714,000

INTERSECTION IMPROVEMENTS IN NORTH INDUSTRIAL AREA

The purpose of this project is to reduce congestion, improve accessibility for freight, and improve safety

- Signage and Intersection Improvements at McLoughlin Blvd and Ochoco St = Establish signage for trucks and improve intersection.
- Intersection Improvements at Main St and Mailwell Dr = Upgrade intersection turning radii to better accommodate freight movements.
- Intersection Improvements at McLoughlin Blvd and 17th Ave = Prohibit left turn movement from 17th Ave to Northbound McLoughlin Blvd.

Sources: TSP (11623), NMIA

Operating Budget Impact: No applicable increase in operating expenses.

Submitted by: Engineering

STATUS	FUNDING SOURCE	2016 COST	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Unfunded	Transportation	$2,261,000	–	–	–	–	–	–	$2,261,000

STREET CONNECTIVITY & INTERSECTION IMPROVEMENT PROJECTS

- Intersection Improvements at 42nd Ave and Harrison St
  = Signalize intersection to facilitate dominant traffic flow.
- Intersection Improvements at Johnson Creek Blvd and Linwood Ave
  = Improve safety of crossing at intersection.
- Traffic-Calming Improvements on River Rd at Lark St
  = Install traffic-calming measures such as a roundabout.

Sources: TSP, RTP (11540)

Operating Budget Impact: Construction of new traffic signal will add to the operational needs.

Submitted by: Engineering

STATUS	FUNDING SOURCE	2016 COST	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Unfunded	Transportation	$1,535,000	–	–	–	–	–	–	$1,535,000

LAKE RD (WHERE ELSE TO HARMONY/RAILROAD)

Fill in sidewalk gaps on both sides of street, widen to provide for standard three-way cross-section west of Hwy 224, fill in gaps in existing bicycle network with bike lanes, provide intersection improvements, and ADA ramps.

Sources: BPAP, TSP, RTP (10094)

Operating Budget Impact: This project will potentially increase ongoing operational needs due to the addition of new infrastructure.

Submitted by: Engineering

STATUS	FUNDING SOURCE	2016 COST	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Unfunded	SAFE	$215,400	–	–	–	–	–	–	$215,400
Unfunded	Transportation	$1,298,600	–	–	–	–	–	–	$1,298,600

OCHOCO ST (17TH AVE TO MCLOUGHLIN)

Reconstruct the bridge over Johnson Creek increasing capacity and reliability of transportation system. Project to include allowance for enhanced bicycle and pedestrian features and vehicular movement. Project would require coordination with City of Portland who owns the existing structure.

Fill in sidewalk gaps, remove barriers and replace portions of existing sidewalk on Ochoco between 17th Ave and McLoughlin Blvd.

Sources: TSP, RTP (10112), TSAP

Operating Budget Impact: Unknown impacts at this time.

Submitted by: Engineering

STATUS	FUNDING SOURCE	2016 COST	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Unfunded	SAFE	$248,300	–	–	–	–	–	–	$248,300
Unfunded	Transportation	$1,149,000	–	–	–	–	–	–	$1,149,000

DOWNTOWN TRANSIT CENTER IMPROVEMENTS

Construct new bus layover facility outside of the downtown core.

Sources: TSP, RTP (11536)
Operating Budget Impact: Unknown
Submitted by: Engineering

STATUS	FUNDING SOURCE	2016 COST	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Unfunded	Transportation	$1,128,000	–	–	–	–	–	–	$1,128,000

29TH AVE BIKE/PED CONNECTION

Provide bicycle and pedestrian connections from 29th Ave to the Railroad Ave multi-use path, including: a north/south bicycle and pedestrian connection through the Murphy site that connects to 29th Ave, pedestrian/bicycle treatments on Campbell St and Railroad Ave between Monroe St and Harrison St (this is the natural direct bicycle connection between the two central Milwaukie opportunity sites – the Murphy Site and the McFarland Site, a bicycle crossing across Harrison St between Campbell St and 31st Ave, and a multi-use trail from Oak St to 37th Ave connecting the Railroad Ave multi-use path with the Monroe St Greenway and the 29th Ave Greenway.

Exact locations to be determined by future development.

Sources: TSP, CMTP, URAP
Operating Budget Impact: This project will increase operational expenses by increasing infrastructure.
Submitted by: Engineering, Community Development, Planning

STATUS	FUNDING SOURCE	2016 COST	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Unfunded	URA	$3,000,000	–	–	–	–	–	–	$3,000,000
Unfunded	Transportation	$400,000	–	–	–	–	–	–	$400,000

BICYCLE INFRASTRUCTURE IMPROVEMENTS

The city bicycle network is incomplete. The goal of this project is to fill in gaps within the existing bicycle network with bike lanes or other bike facilities. Projects include:

- Harrison St Bike Lanes = Fill in gaps in existing bicycle network with bike lanes
- International Way Bicycle Facilities

Funded: International Way
Sources: TSP, CMTP, SAFE, RTP (11541)
Operating Budget Impact: Unknown
Submitted by: Engineering

STATUS	FUNDING SOURCE	2016 COST	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Funded	SAFE	$422,000	–	–	–	$157,600	–	$450,400	$608,000
Unfunded	Transportation	$310,000	–	–	–	–	–	–	$310,000

37TH AVE PEDESTRIAN IMPROVEMENTS

Fill in sidewalk gaps on both sides of street, construct ADA ramps, and remove barriers on 37th Ave between Lake Rd and Harrison St.

Sources: BPAP, TSP, RTP (10096), SSMP
Operating Budget Impact: None anticipated
Submitted by: Engineering

STATUS	FUNDING SOURCE	2016 COST	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Unfunded	Transportation	$212,000	-	-	-	-	-	-	$212,000
Unfunded	SAFE	$240,600	-	-	-	-	-	-	$240,600
Unfunded	SSMP	$91,800	-	-	-	-	-	-	$91,800

KELLOGG CREEK TRAIL IMPROVEMENTS

Construct ADA trail improvements to create an accessible path from Milwaukie Bay Park to 19th St.

Sources: BPAP, ADA
Operating Budget Impact: None
Submitted by: Engineering

STATUS	FUNDING SOURCE	2016 COST	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Unfunded	Transportation	$87,000	–	–	–	–	–	–	$87,000

KELVIN/OLSEN BIKE/PED CONNECTIONS

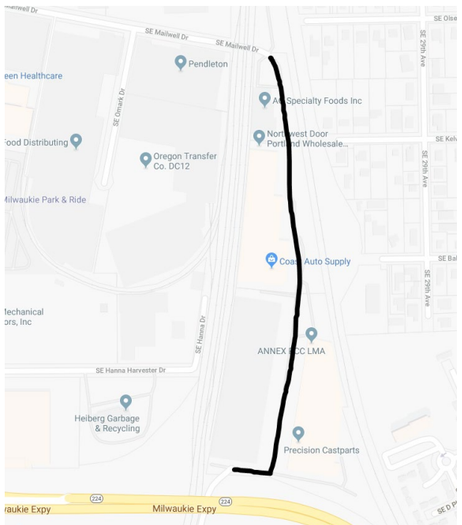
Develop a bicycle and pedestrian connection across the railroad tracks at approximately Kelvin or Olsen Streets to connect the SE 29th Ave Greenway to Mailwell.

Sources: TSP, NMIA

Operating Budget Impact: This project would increase operation expenses due to new structures and infrastructure being created.

Submitted by: Community Development, Planning

STATUS	FUNDING SOURCE	2016 COST	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Unfunded	Transportation	$4,000,000	–	–	–	–	–	–	$4,000,000



NMIA RIGHT-OF-WAY ROAD DESIGN

Create a public right-of-way from Mailwell through the existing loading docks to SE 26th. Road design should restrict large trucks from entering the adjacent neighborhoods south of the project area.

Source: NMIA

Operating Budget Impact: Unknown

Submitted by: Community Development, Engineering, Public Works

STATUS	FUNDING SOURCE	2016 COST	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Unfunded	Transportation	TBD	–	–	–	–	–	–	TBD

OAK STREET/34TH AVE CONNECTION

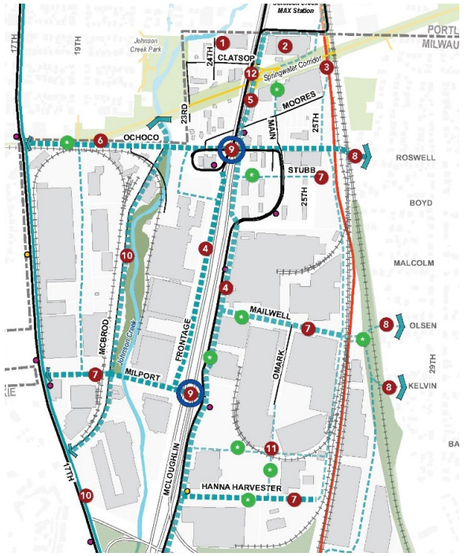
Provide pedestrian/bicycle connection between Monroe St and 34th Ave (including access for a nearby residential neighborhood).

Sources: TSP, CMTP

Operating Budget Impact: This project will increase operational expenses with construction of new infrastructure.

Submitted by: Engineering, Community Development

STATUS	FUNDING SOURCE	2016 COST	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Unfunded	Transportation	$106,000	–	–	–	–	–	–	$106,000



OCHOCO/ROSWELL BIKE/PED CONNECTIONS

Extend bicycle and pedestrian connections along SE Ochoco St to SE Roswell St across the railroad tracks to improve connectivity and circulation to/from the project area.

Source: NMIA

Operating Budget Impact: This project constructs a new bridge and supporting infrastructure, increasing operational expenses.

Submitted by: Community Development, Planning, Engineering, Public Works

STATUS	FUNDING SOURCE	2016 COST	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Unfunded	Transportation	TBD	–	–	–	–	–	–	TBD

STREET SURFACE MAINTENANCE PROGRAM – CRACK SEAL

This project will provide protection to roadways from possible damage due to water within cracks that form as part of the natural process by sealing them before more expensive measures are required.

Sources: TSP, SSMP

Operating Budget Impact: This project will reduce maintenance operating expenditures by providing a short-term relief on the streets by sealing cracks and reduce the potential for potholes. Work also done in connection with slurry seals.

Submitted by: Public Works

STATUS	FUNDING SOURCE	2016 COST	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Funded	SSMP	–	$15,000	$15,000	$15,000	$15,000	$15,000	$15,000	$90,000

STREET SURFACE MAINTENANCE PROGRAM – SLURRY SEAL PROGRAM

The purpose of this program is to treat street surfaces in a "good" condition prior to them needing a grind and inlay (or overlay). By surface sealing worn asphalt, the City can prolong the life of its streets thus reducing the need for more costly measures.

Source: SSMP

Operating Budget Impact: This project will reduce maintenance operating expenditures by providing a short-term wearing course on the streets and reduce the potential for potholes and surface cracking.

Submitted by: Engineering

STATUS	FUNDING SOURCE	2016 COST	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Funded	SSMP	–	–	$500,000	–	–	–	–	$500,000
Unfunded	SSMP	–	–	–	–	$500,000	–	$500,000	$1,000,000

KRONBERG PARK TRAIL

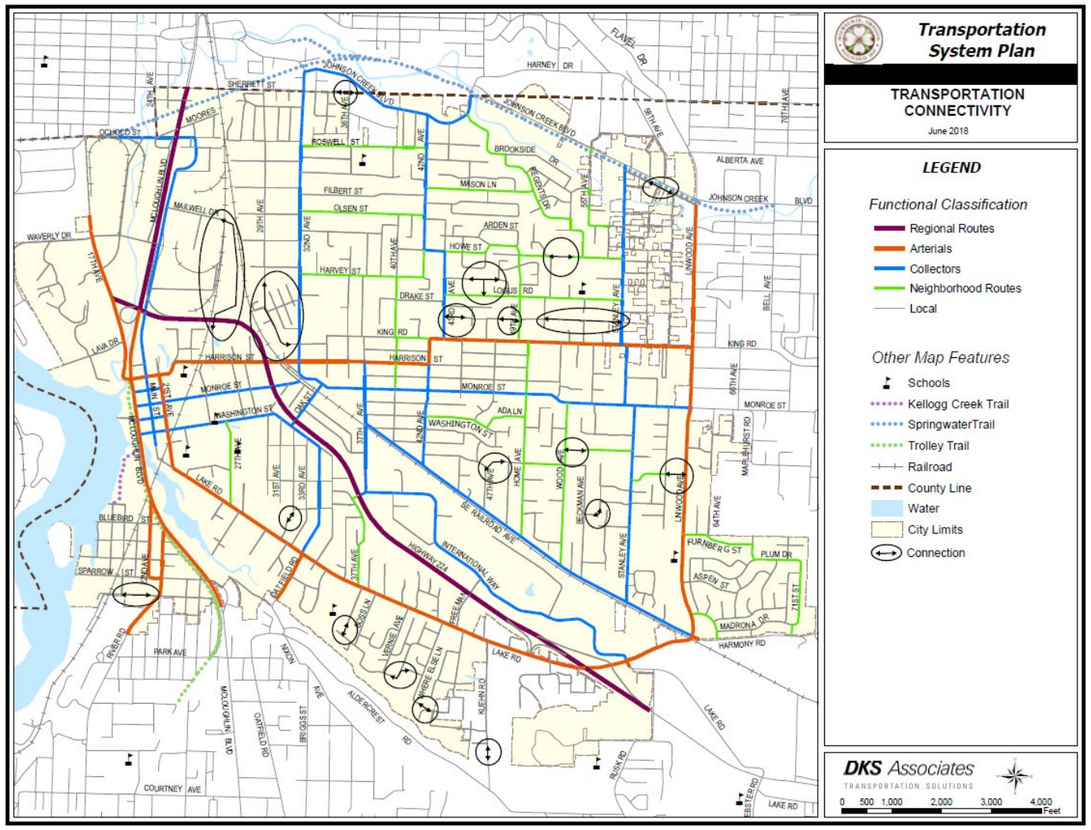
This project will construct a multi-use trail connecting the Kellogg Creek Pedestrian Bridge to the pedestrian signal across McLoughlin Blvd at River Rd. The trail will include an elevated portion through Kronberg Park, pedestrian amenities, and stormwater improvements along McLoughlin Blvd.

Sources: TSP, RTP (10113)

Operating Budget Impact: This project will potentially increase ongoing operational needs due to the addition of new infrastructure.

Submitted by: Engineering

STATUS	FUNDING SOURCE	2016 COST	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Funded	SAFE	–	$1,277,000	–	–	–	–	–	$1,277,000
Funded	Stormwater	–	$106,700	–	–	–	–	–	$106,700
Funded	Grant-Connect Oregon	–	$986,000	–	–	–	–	–	$986,000



TRANSPORTATION CONNECTIVITY

This project identifies the City's transportation connectivity requirements for vehicular, pedestrian, and/or bicycle needs in conformance with Goal 5 of the Transportation System Plan and allows these projects to become eligible for system development funding for their capacity increasing aspects.

Source: TSP

Operating Budget Impact: This project will potentially increase ongoing operational needs due to the addition of new infrastructure.

Submitted by: Engineering

STATUS	FUNDING SOURCE	2016 COST	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Unfunded	Transportation	TBD	–	–	–	–	–	–	TBD

LEDDING LIBRARY IMPROVEMENT PROJECTS

The electors of the City of Milwaukie, Oregon, (the "City") approved a ballot measure on May 17, 2016, that provided the City the authority to issue general obligation bonds (the "2016 GO Bonds"), for library repairs, improvements, and updated technology. Improvements, including:

- Providing a larger designated area for children and teen programming and learning;
- Installing security cameras in the parking lot and building exterior;
- Installing modern toilets and restroom facilities;
- Installing modern wiring, technology and additional printers and computers;
- Replacing heating and cooling systems with energy efficient modern systems; and
- Installing structural components to meet City earthquake standards.
- The project is currently under design and construction is anticipated during the 2019-2020 biennium.

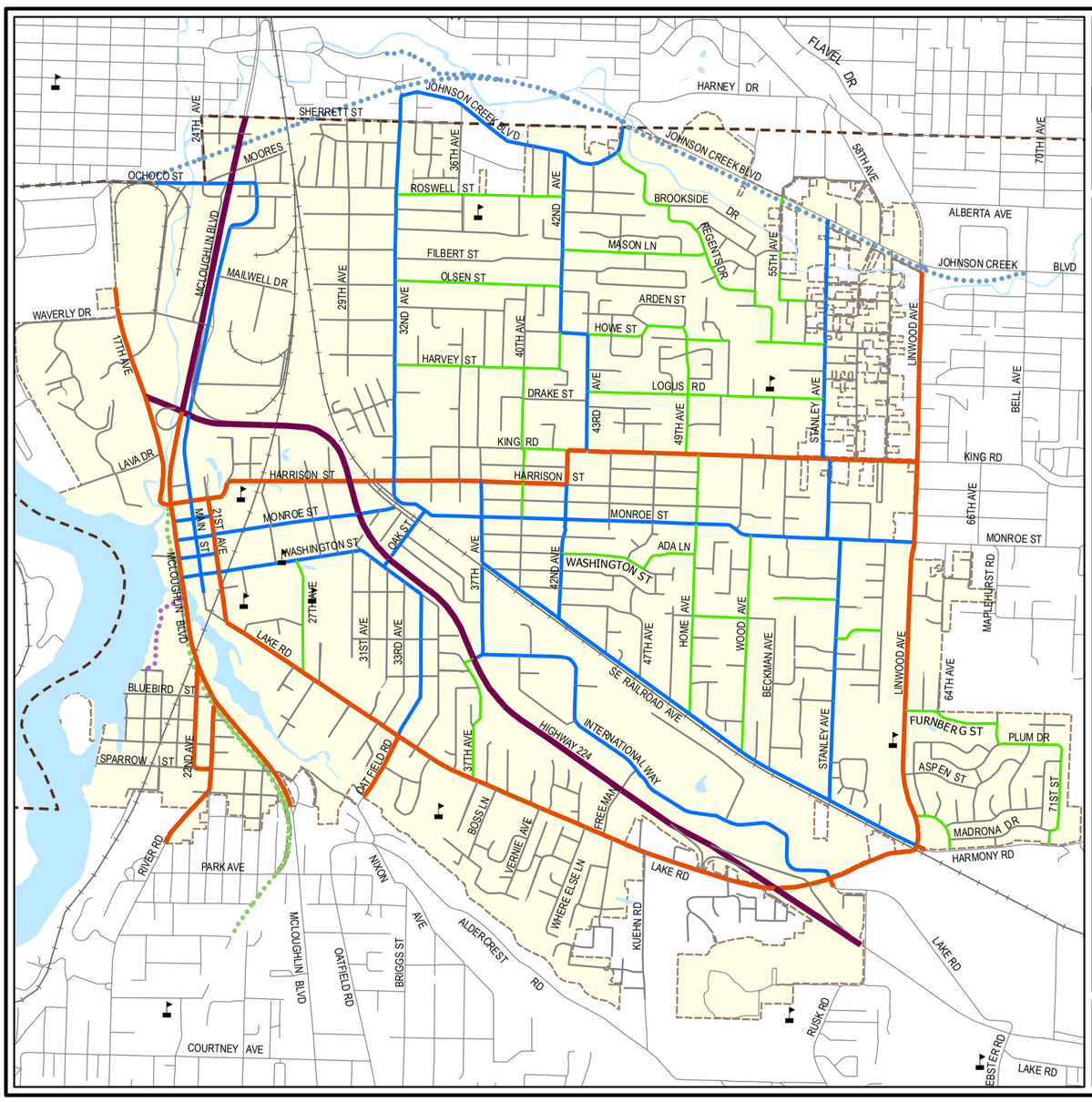
Source: City Staff

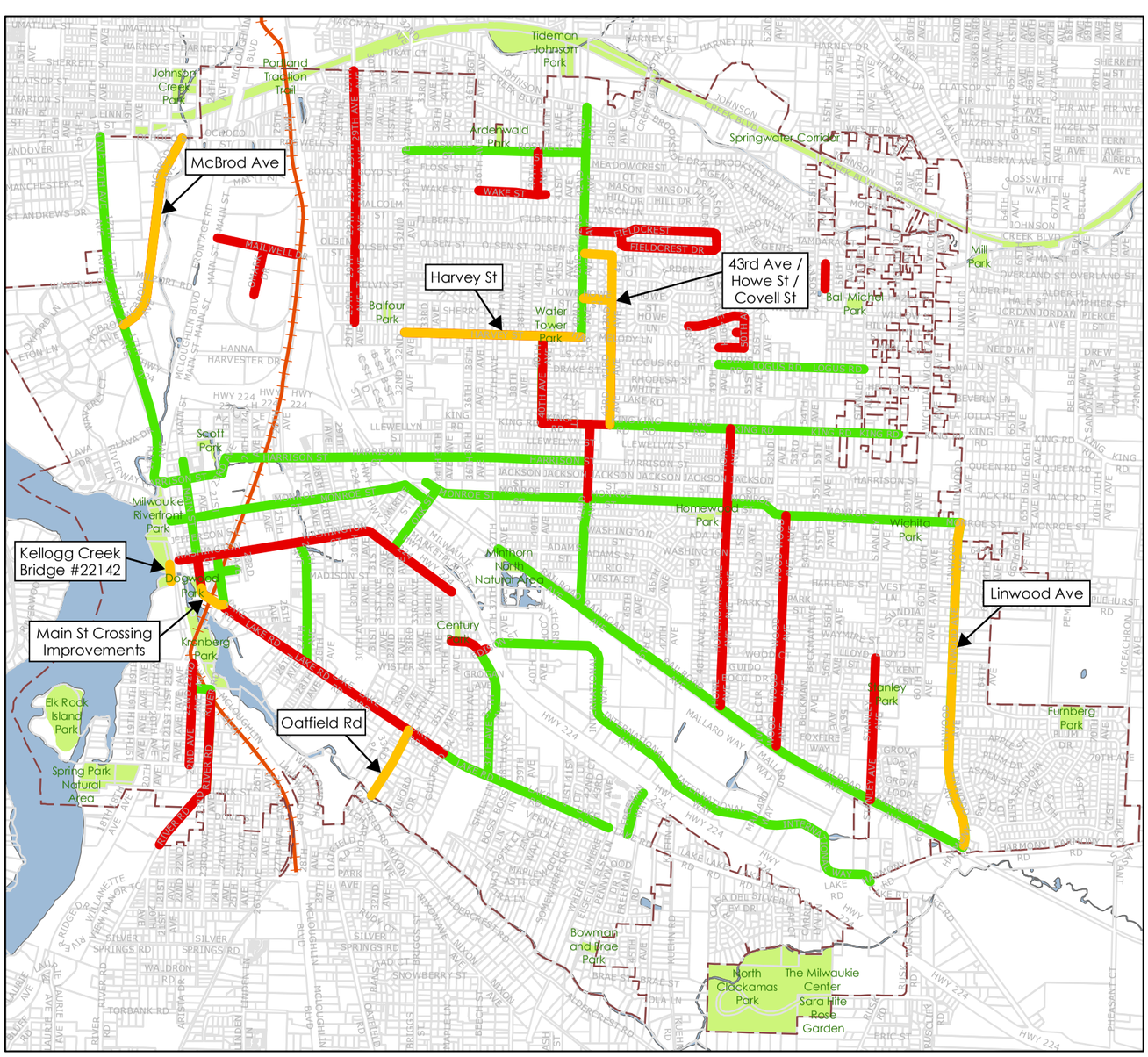
Operating Budget Impact: The project is participating in the Energy Trust Path to Net Zero program and therefore is targeting energy efficiency 70% below the state code requirements, 23 EUI (Energy Use Intensity). The current building has an EUI of 146 which is 3 times Oregon's current building code and almost double the average Library. EUI is a measure of energy use per square footage and therefore although we are targeting a much more efficient facility with the expansion, planned to go from 12,500 to 20,000 square feet, the savings realized in $ are unknown at this time.

Submitted by: Library

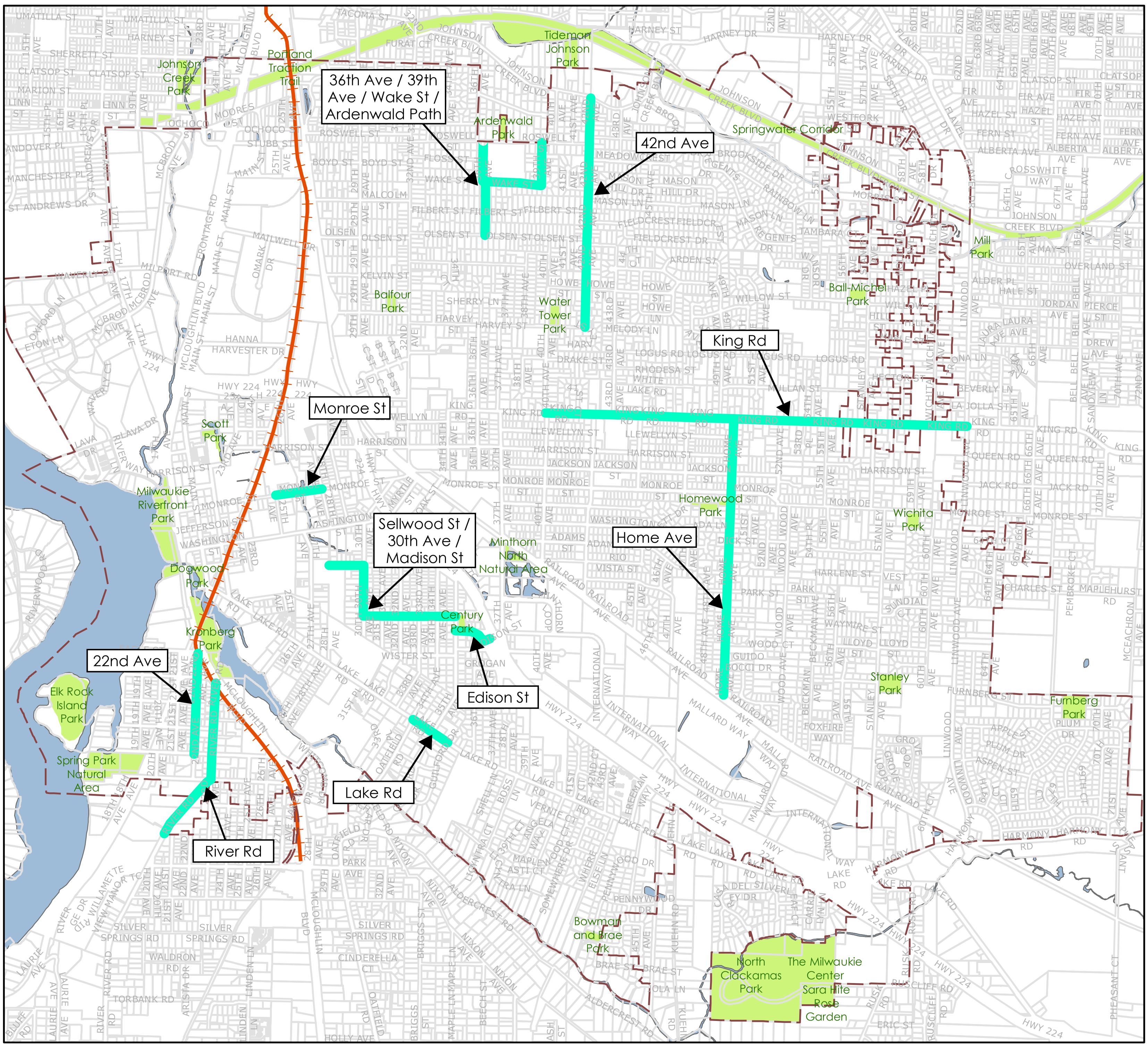
STATUS	FUNDING SOURCE	2016 COST	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Funded	GO Bond	-	$6,696,000	$2,504,000	-	-	-	-	$9,200,000
Funded	Intergovernmental Grants	-	$300,000	-	-	-	-	-	$300,000
Funded	Private Donations/ Grants	-	$131,000	-	-	-	-	-	$131,000
Funded	Library Operational Savings (General Property Taxes)	-	$236,000	-	-	-	-	-	$236,000
Funded	General Property Taxes	-	$306,750	-	-	-	-	-	$306,750
	Private Donations/ Grants	-	$250,000	-	-	-	-	-	$250,000
Funded	Stormwater **	-	$121,000		-	-	-	-	$121,000
Funded	Transportation (Gas Tax - new)	-	$109,000		-	-	-	-	$109,000

** Note: *the Stormwater $$ are a duplication of the project identified in the storm utility and are shown here for clarity.*


JOHNSON CREEK BLVD
HARNEY DR
FLAVEL DR
SHERRETT ST
OCHOCO ST
MOORES
24TH AVE
36TH AVE
38TH AVE
70TH AVE
ROSWELL ST
42ND AVE
BROOKSIDE DR
REGENTS DR
55TH AVE
ALBERTA AVE
JOHNSON CREEK BLVD
MASON LN
FILBERT ST
OLSEN ST
ARDEN ST
HOWE ST
HARVEY ST
DRAKE ST
LOGUS RD
KING RD
MAILWELL DR
29TH AVE
32ND AVE
40TH AVE
43RD AVE
49TH AVE
STANLEY AVE
LINWOOD AVE
BELL AVE
WAVERLY DR
17TH AVE
LAVA DR
HARRISON ST
MONROE ST
WASHINGTON ST
ADA LN
MAIN ST
12TH AVE
OAK ST
37TH AVE
42ND AVE
66TH AVE
MARLHURST RD
MCLOUGHLIN BLVD
27TH AVE
31ST AVE
33RD AVE
47TH AVE
HOME AVE
WOOD AVE
BECKMAN AVE
LAKE RD
SE RAILROAD AVE
HIGHWAY 224
INTERNATIONAL WAY
64TH AVE
FURNBERG ST
PLUM DR
ASPEN ST
71ST ST
BLUEBIRD ST
SPARROW ST
22ND AVE
OATFIELD RD
37TH AVE
BOSS LN
FREEMAN
VERNIE AVE
WHERE ELSE LN
KUEHN RD
MADRONA DR
HARMONY RD
RIVER RD
PARK AVE
NIXON AVE
ALDERCREST RD
BRIGGS ST
COURTNEY AVE
RUSK RD
EBSTER RD
Transportation System Plan
FIGURE 3-7
FUNCTIONAL CLASSIFICATION
November 2013
LEGEND
Functional Classification
Regional Routes
Arterials
Collectors
Neighborhood Routes
Local
Other Map Features
Schools
Kellogg Creek Trail
SpringwaterTrail
Trolley Trail
Railroad
County Line
Water
City Limits
DKS Associates
TRANSPORTATION SOLUTIONS
0 500 1,000 2,000 3,000 4,000
Feet


City of Milwaukie
Capital Improvement Plan
Transportation & SSMP
Projects
Key
Transportation Project
SSMP Project
Completed SSMP Project
City of Milwaukie
City Border
Milwaukie Light Rail
Water body
Milwaukie Parks
McBrod Ave
Harvey St
43rd Ave / Howe St / Covell St
Kellogg Creek Bridge #22142
Main St Crossing Improvements
Oatfield Rd
Linwood Ave
Tideman Johnson Park
Johnson Creek Park
Portland Traction Trail
Springwater Corridor
Ardenwald Park
Balfour Park
Water Tower Park
Ball-Michel Park
Mill Park
Scott Park
Milwaukie Riverfront Park
Homewood Park
Wichita Park
Dogwood Park
Minthorn North Natural Area
Kronberg Park
Century Park
Stanley Park
Furnberg Park
Elk Rock Island Park
Spring Park Natural Area
Bowman and Brae Park
North Clackamas Park
The Milwaukie Center
Sara Hite Rose Garden
N
Miles
0 0.25 0.5
CITY OF MILWAUKIE

City of Milwaukie Capital Improvement Plan SAFE Projects



Key

- SAFE Project
- **City of Milwaukie**
- City Border
- Milwaukie Light Rail
- Water body
- Milwaukie Parks

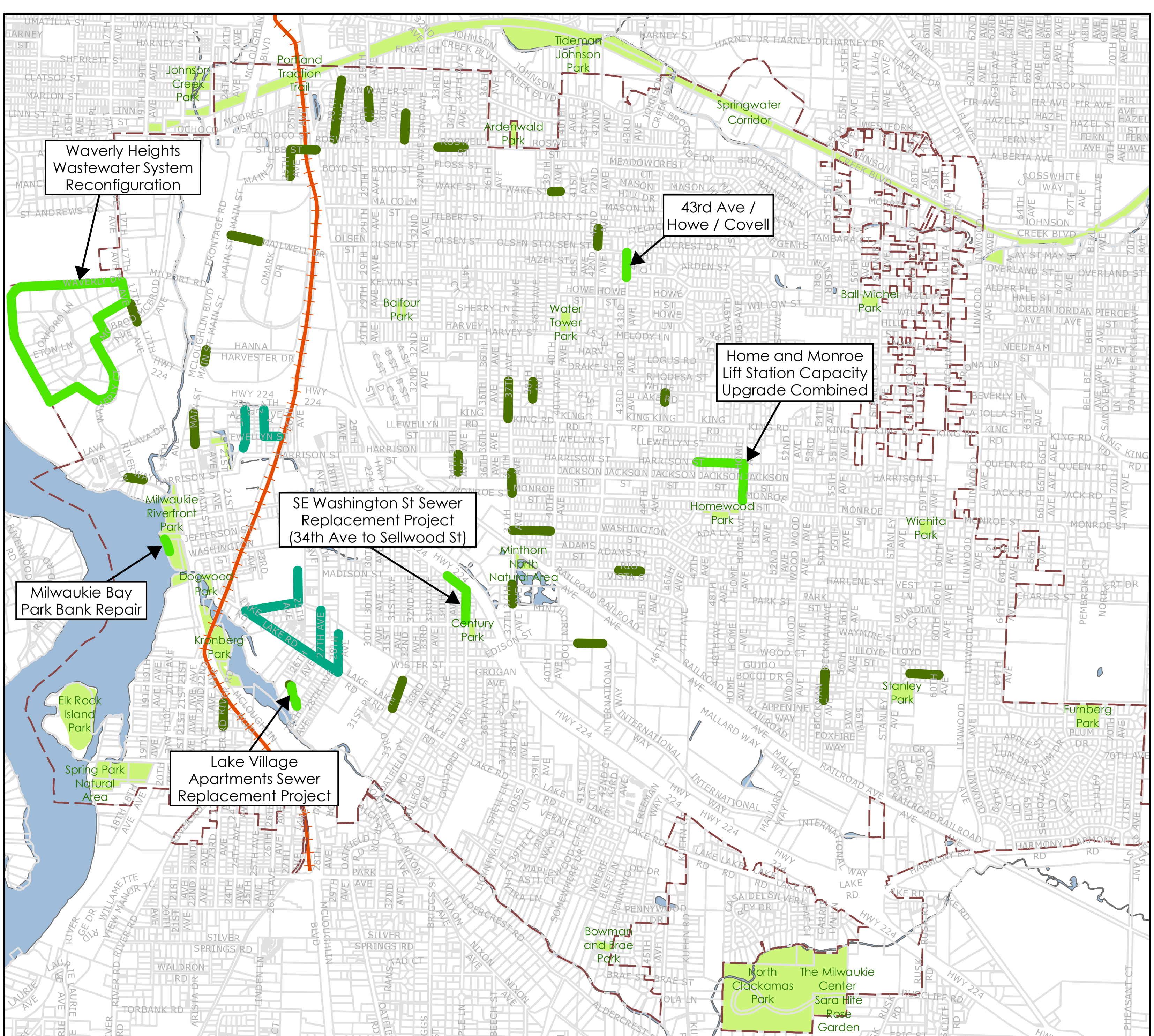
N

Miles: 0 — 0.25 — 0.5

Data Sources: City of Milwaukie GIS, Metro Data Resource Center
4/2/2018
The information depicted on this map is for general reference only. The City of Milwaukie cannot accept any responsibility for errors, omissions or positional accuracy. There are no warranties, expressed or implied, including the warranty of merchantability or fitness for a particular purpose, accompanying this product. However, notification of errors would be appreciated.

Please check with GIS for most up-to-date information.

City of Milwaukie Capital Improvement Plan Wastewater Projects



Key

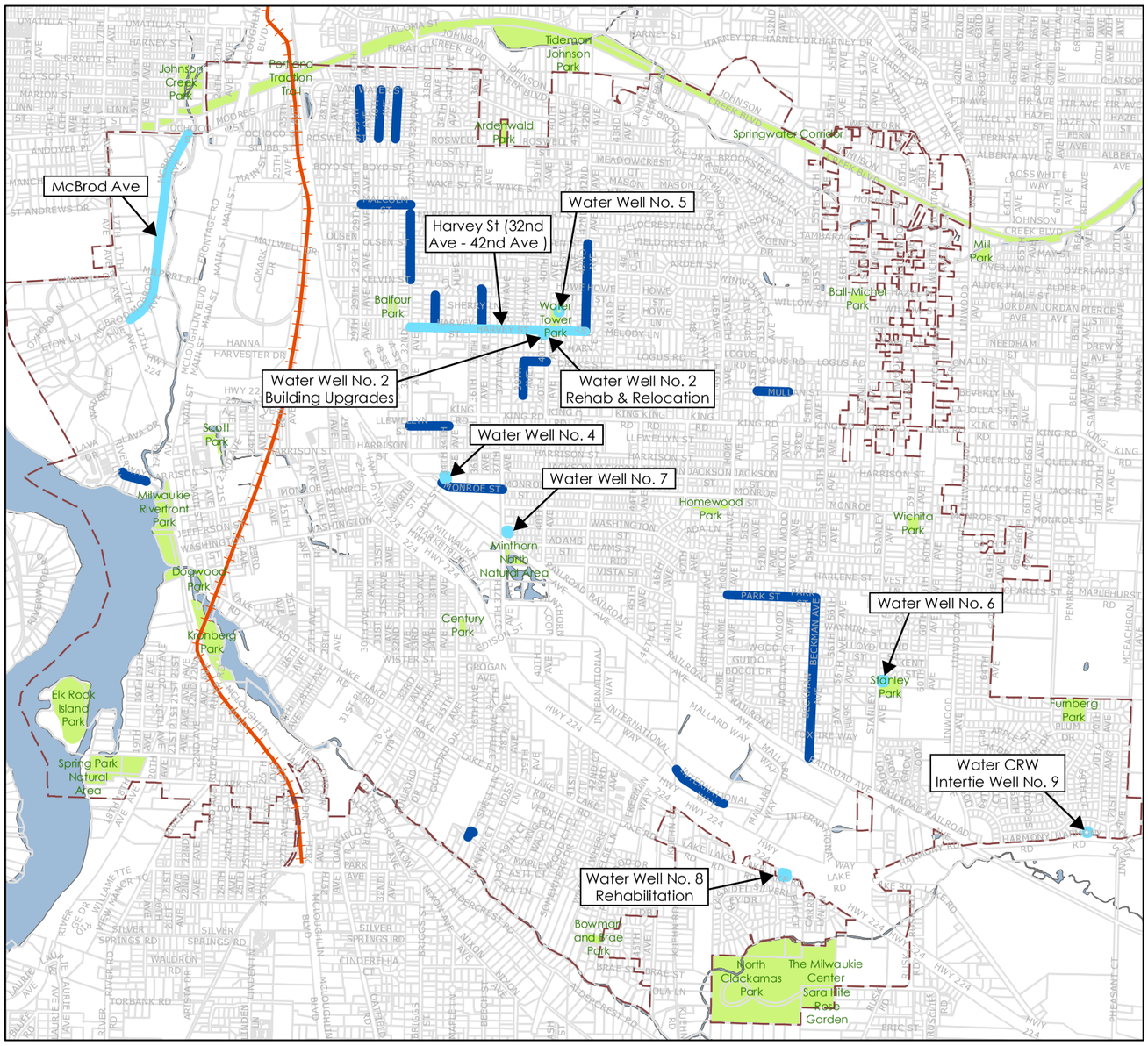
- Wastewater Project
- Clay Pipe Replacement Program
- Wastewater Repair Project
- **City of Milwaukie**
- City Border
- Milwaukie Light Rail
- Water body
- Milwaukie Parks

N

Miles: 0 — 0.25 — 0.5

Data Sources: City of Milwaukie GIS, Metro Data Resource Center
4/2/2018
The information depicted on this map is for general reference only. The City of Milwaukie cannot accept any responsibility for errors, omissions or positional accuracy. There are no warranties, expressed or implied, including the warranty of merchantability or fitness for a particular purpose, accompanying this product. However, notification of errors would be appreciated.

Please check with GIS for most up-to-date information.

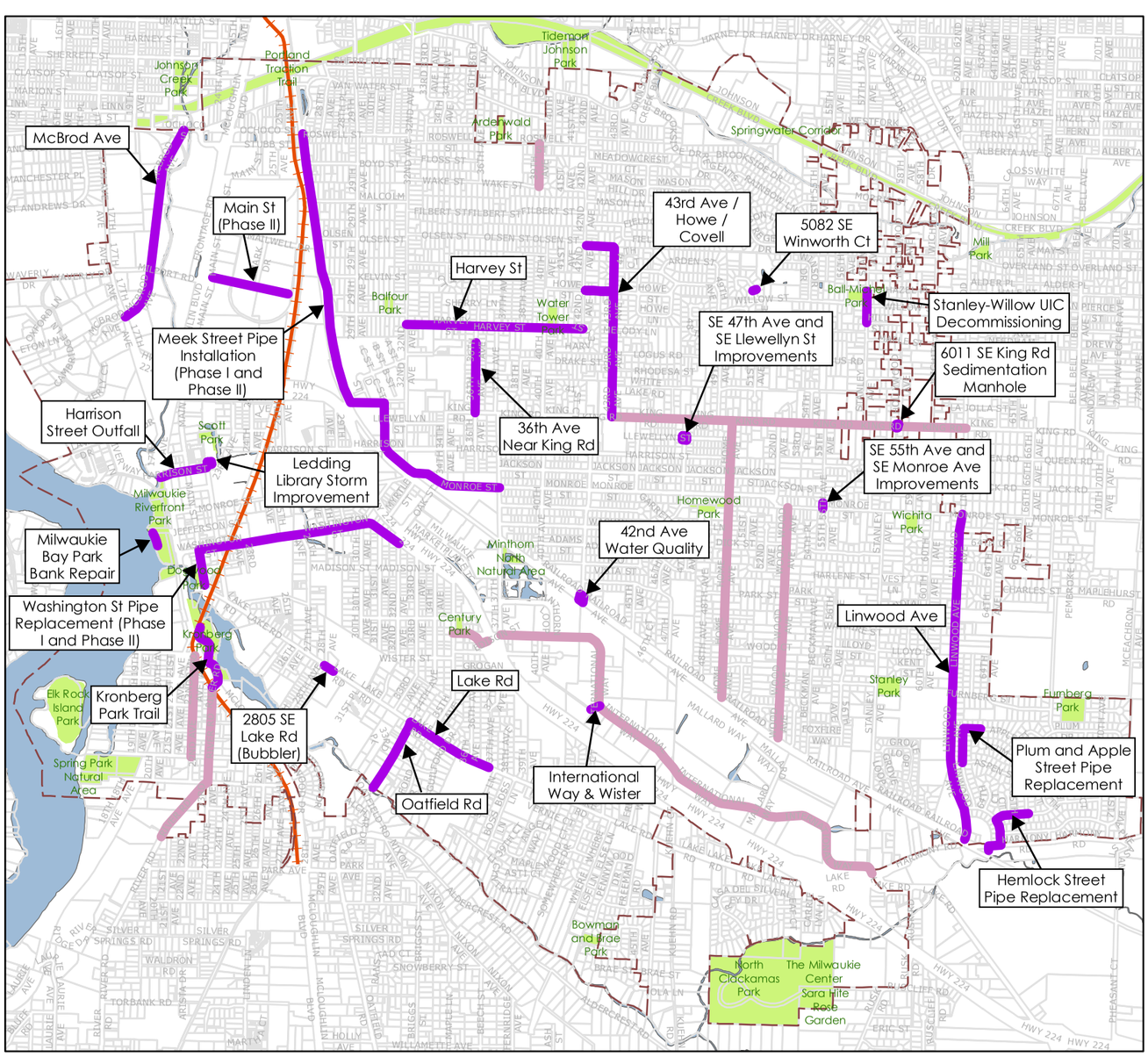


City of Milwaukie Capital Improvement Plan Water Projects

Key
- Water Project
- Water System Improvements

City of Milwaukie
- City Border
- Milwaukie Light Rail
- Water body
- Milwaukie Parks

N
Miles
0 0.25 0.5



City of Milwaukie Capital Improvement Plan Stormwater Projects

Key
- Water Quality Improvements
- Storm Project

City of Milwaukie
- City Border
- Milwaukie Light Rail
- Water body
- Milwaukie Parks

N
Miles
0 0.25 0.5

CITY OF MILWAUKIE

6.4.

*Public Improvement Standards

6.4.1.

*Public Works Standards

PUBLIC WORKS STANDARDS

Adopted Res. 32-2007
May 15, 2007
Last revised February 4, 2015

PUBLIC WORKS STANDARDS

MASTER TABLE OF CONTENTS

CONSTRUCTION STANDARDS

DIVISION 1—GENERAL REQUIREMENTS

DIVISION 2—GENERAL CONSTRUCTION STANDARDS

DIVISION 3—SANITARY SEWER CONSTRUCTION STANDARDS

DIVISION 4—WATER CONSTRUCTION STANDARDS

DIVISION 5—STREET CONSTRUCTION STANDARDS

DIVISION 5—STREET CONSTRUCTION STANDARDS (continued)

DIVISION 6—STORMWATER CONSTRUCTION STANDARDS

DIVISION 7—CONCRETE STRUCTURES CONSTRUCTION STANDARDS

DESIGN STANDARDS

SECTION 1—GENERAL REQUIREMENTS

SECTION 2—STORMWATER DESIGN STANDARDS

SECTION 3—SANITARY SEWER DESIGN STANDARDS

SECTION 4—WATER DESIGN STANDARDS

SECTION 5—STREET DESIGN STANDARDS

STANDARD DRAWINGS

PUBLIC WORKS STANDARDS

REVISIONS LIST (as of 2/4/2015)

DIVISION/SECTION	LAST REVISED

CONSTRUCTION STANDARDS

DESIGN STANDARDS

STANDARD DRAWINGS

6.4.2.

*Supplemental Standard Specifications for Construction

Supplemental Standard Specifications

For

Construction

For the

City of Milwaukie

in

Clackamas County, Oregon

December 2017

General Conditions for Construction for City of Milwaukie

Part 00100 as originally published by ODOT for Certified LPAs has been modified. This is an updated Table of Contents for the City of Milwaukie Part 00100

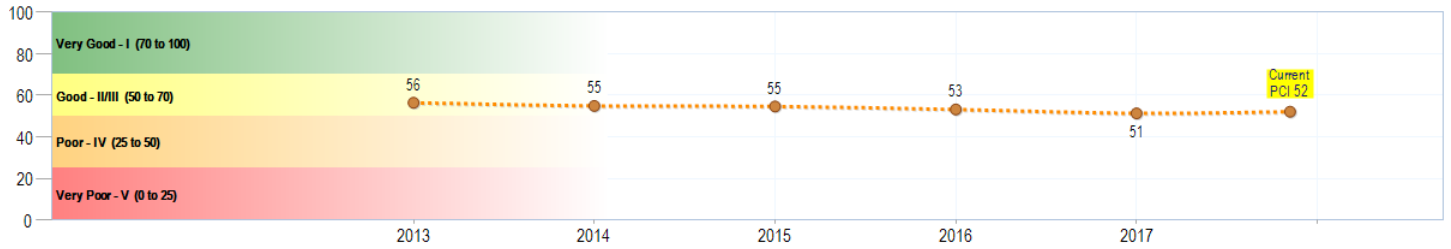
TABLE OF CONTENTS

PART 00100 - GENERAL CONDITIONS

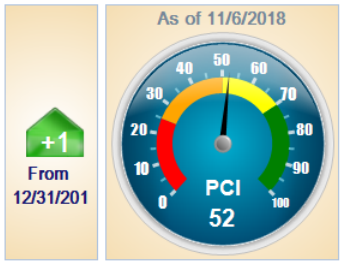
6.5.

Construction Pavement Index

*Historical Pavement Condition Trends



*Current PCI



Network Inventory

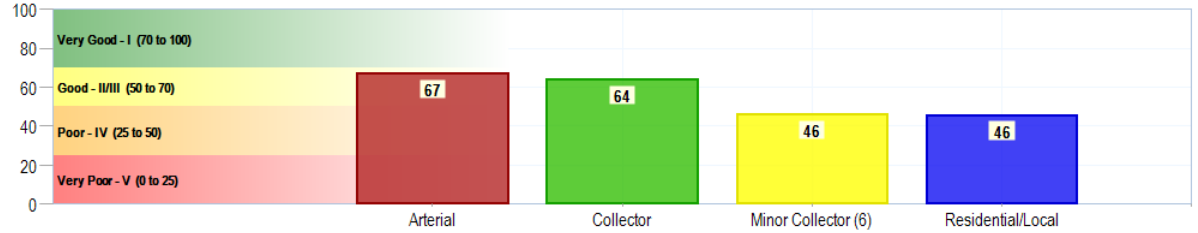
Area: 0.38 *(square miles)*

Miles: 74.09

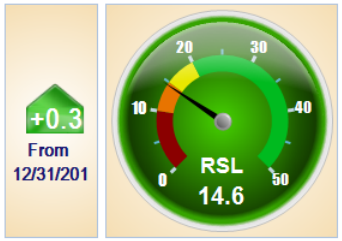
Lane Miles: 148.24

Sections: 576

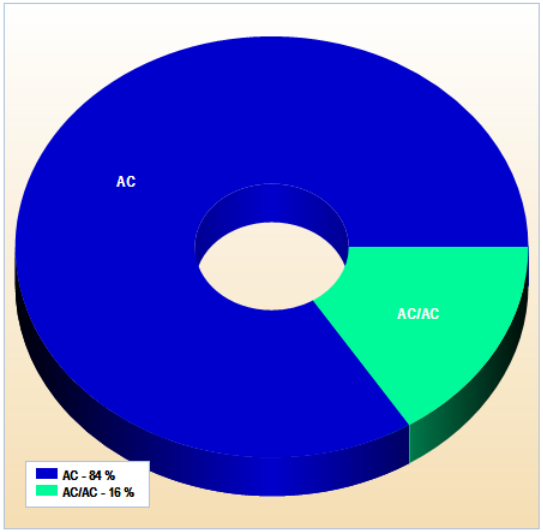
*Current PCI by Functional Class



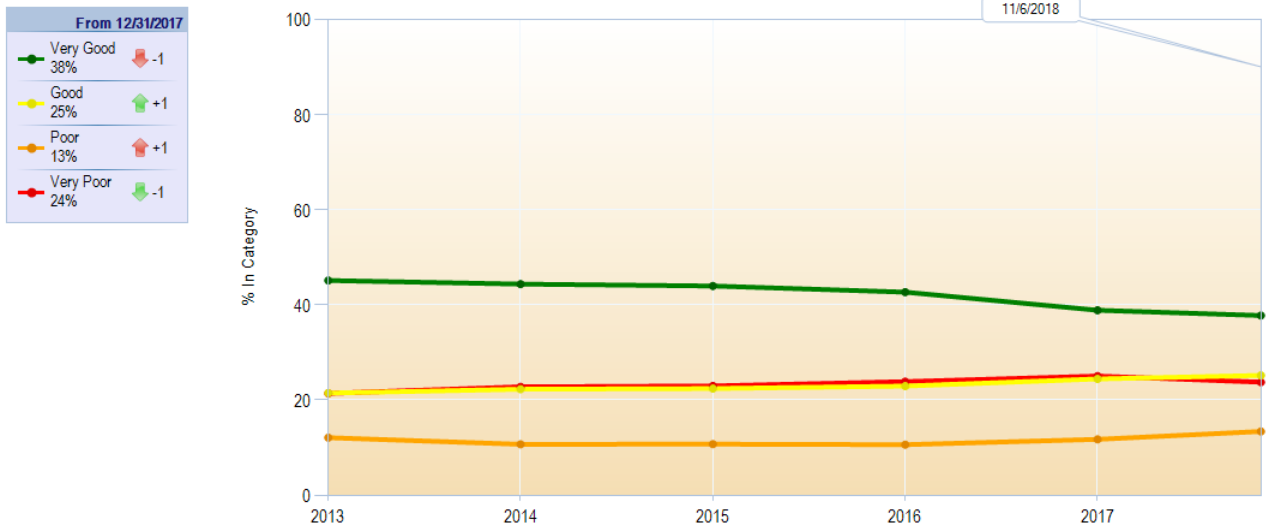
Remaining Service Life (years)



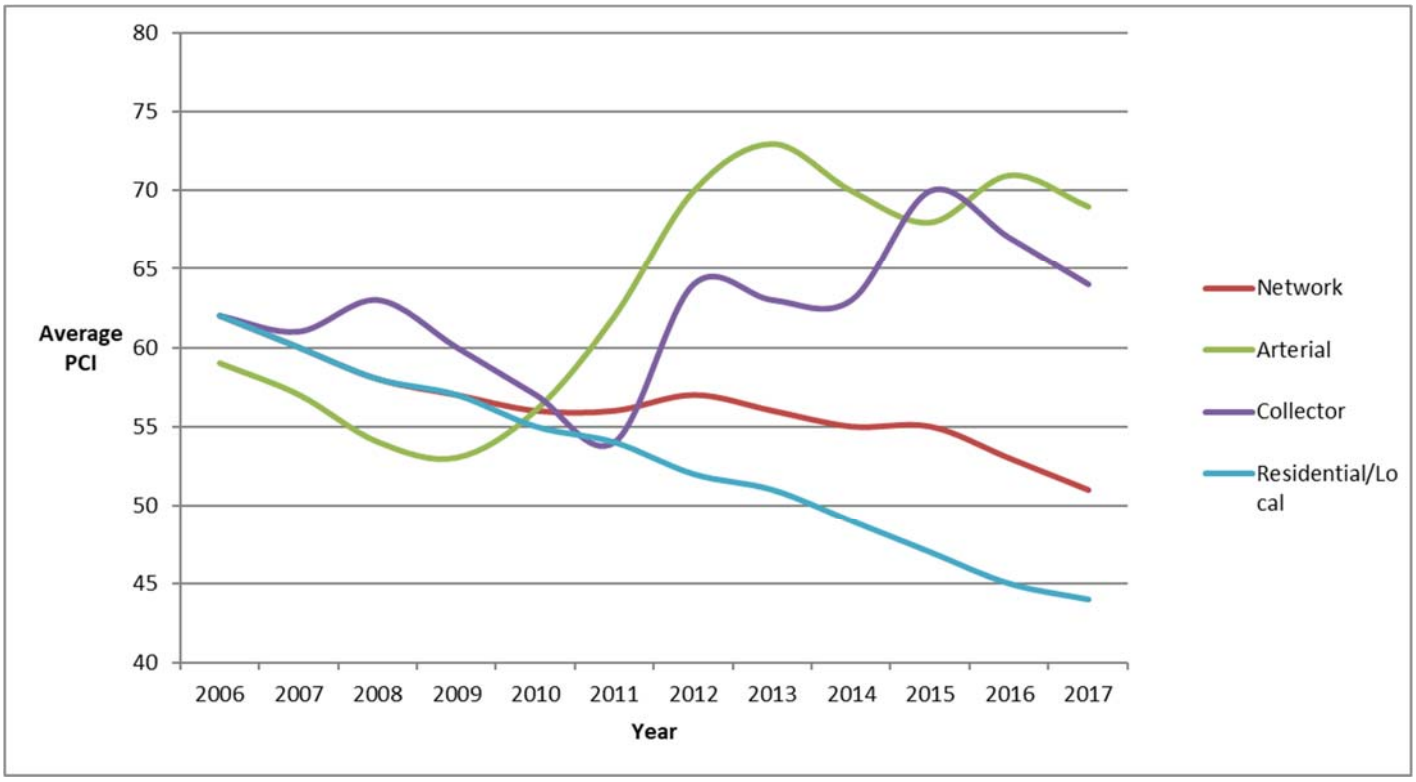
Surface Type



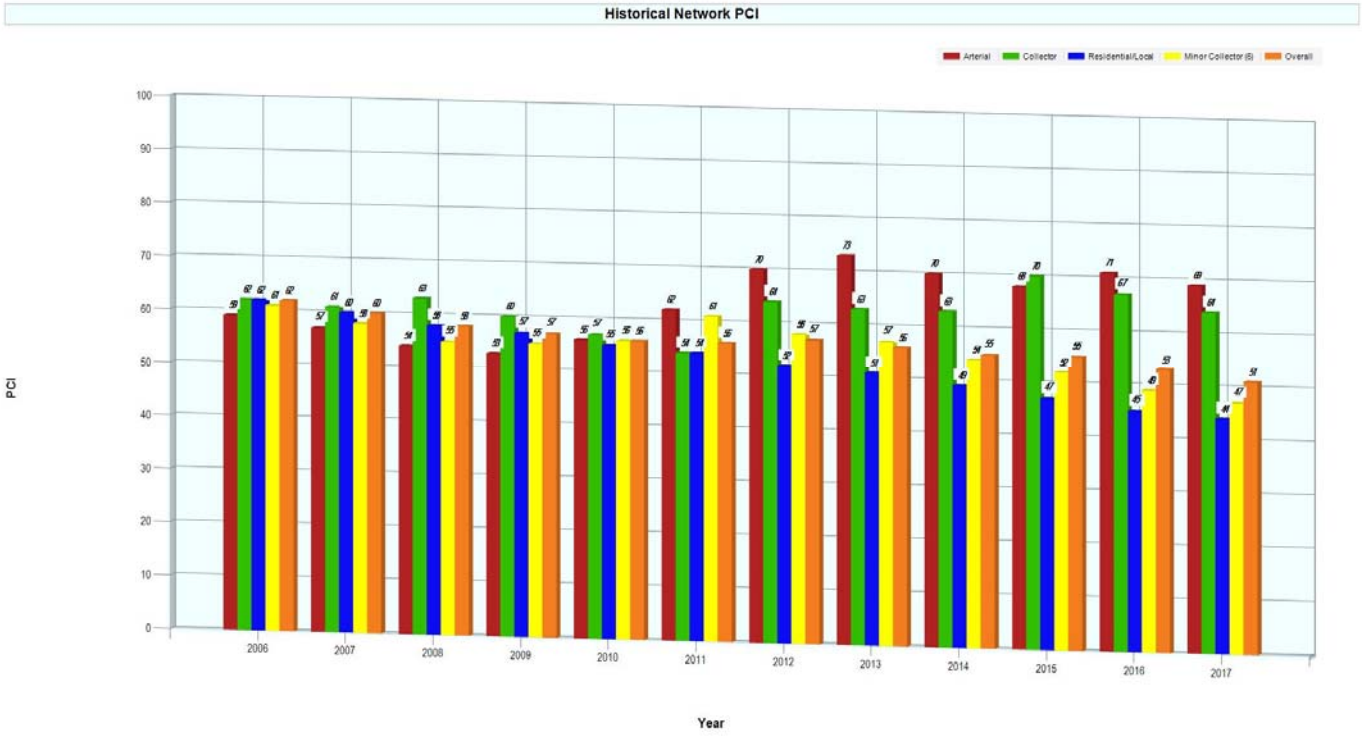
Historical Network Condition Trends



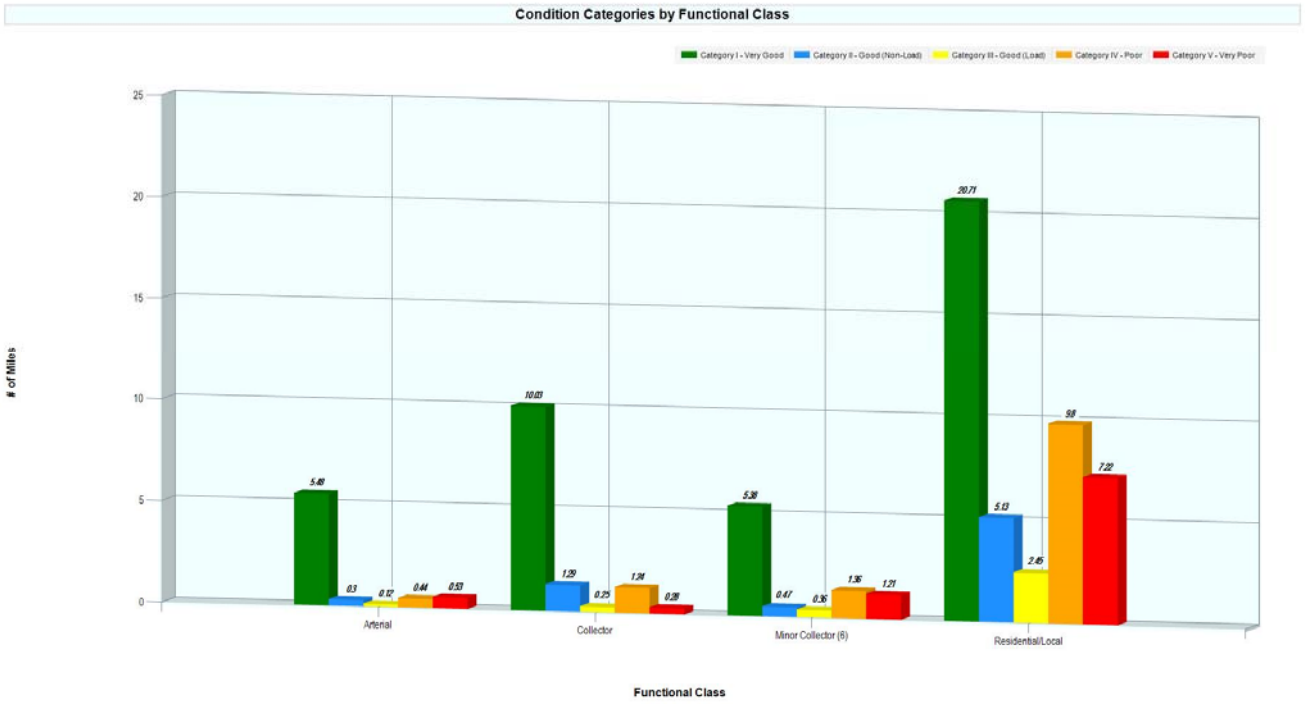
Pavement Condition Index (PCI) History from 2006 to 2017
From StreetSaver Program

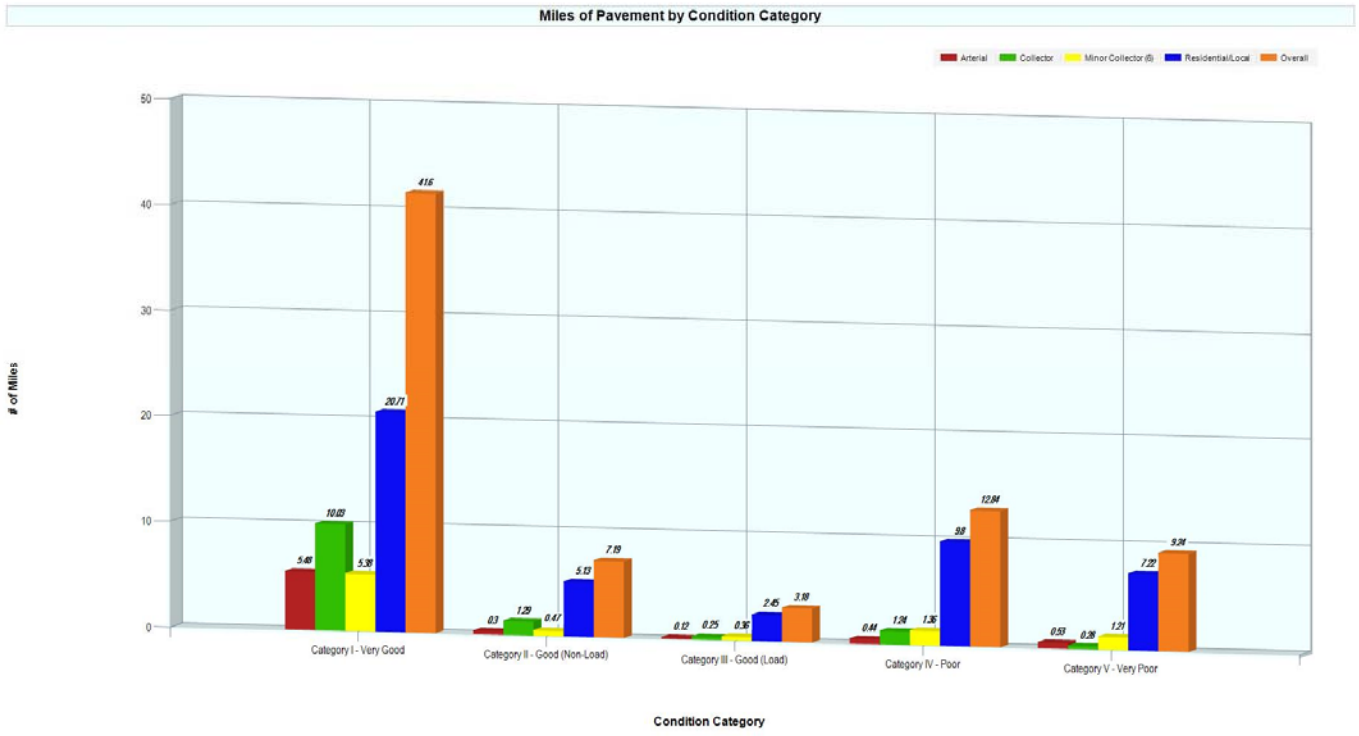


Pavement Condition Index (PCI) based on Street Classification from 2006 to 2017
From StreetSaver Program

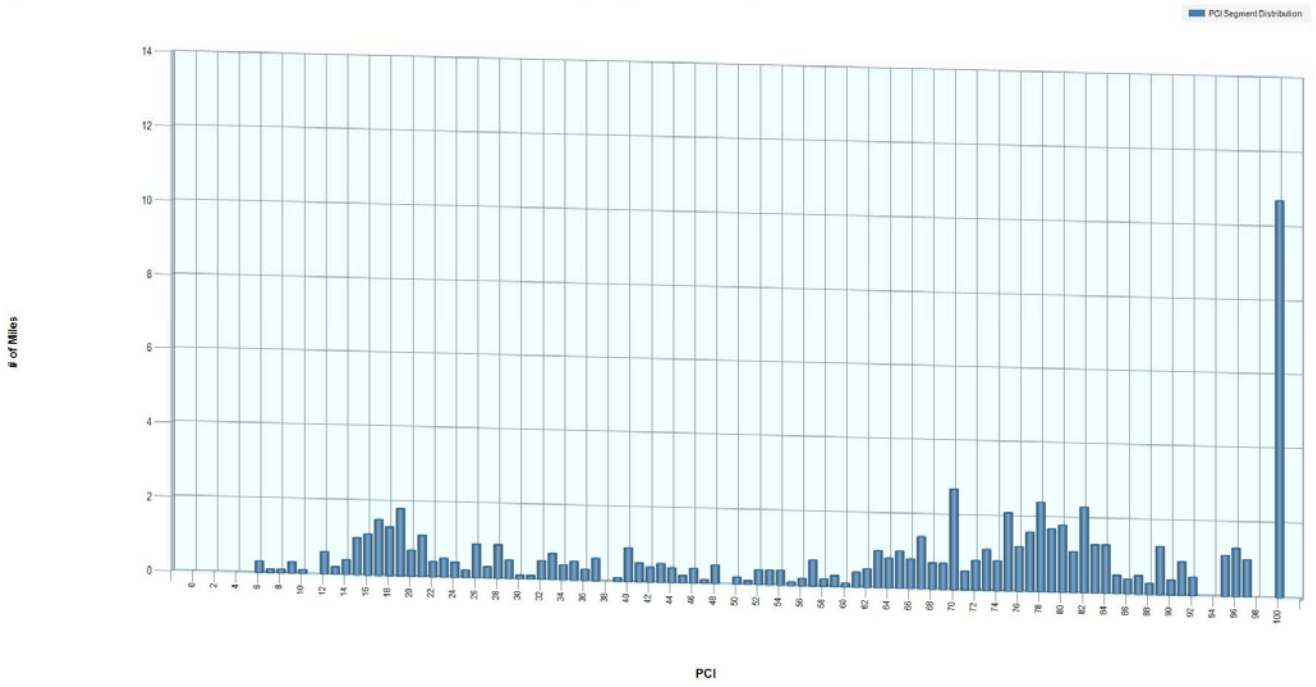


From current (11/2018) StreetSaver Pavement Condition Index (PCI) Values

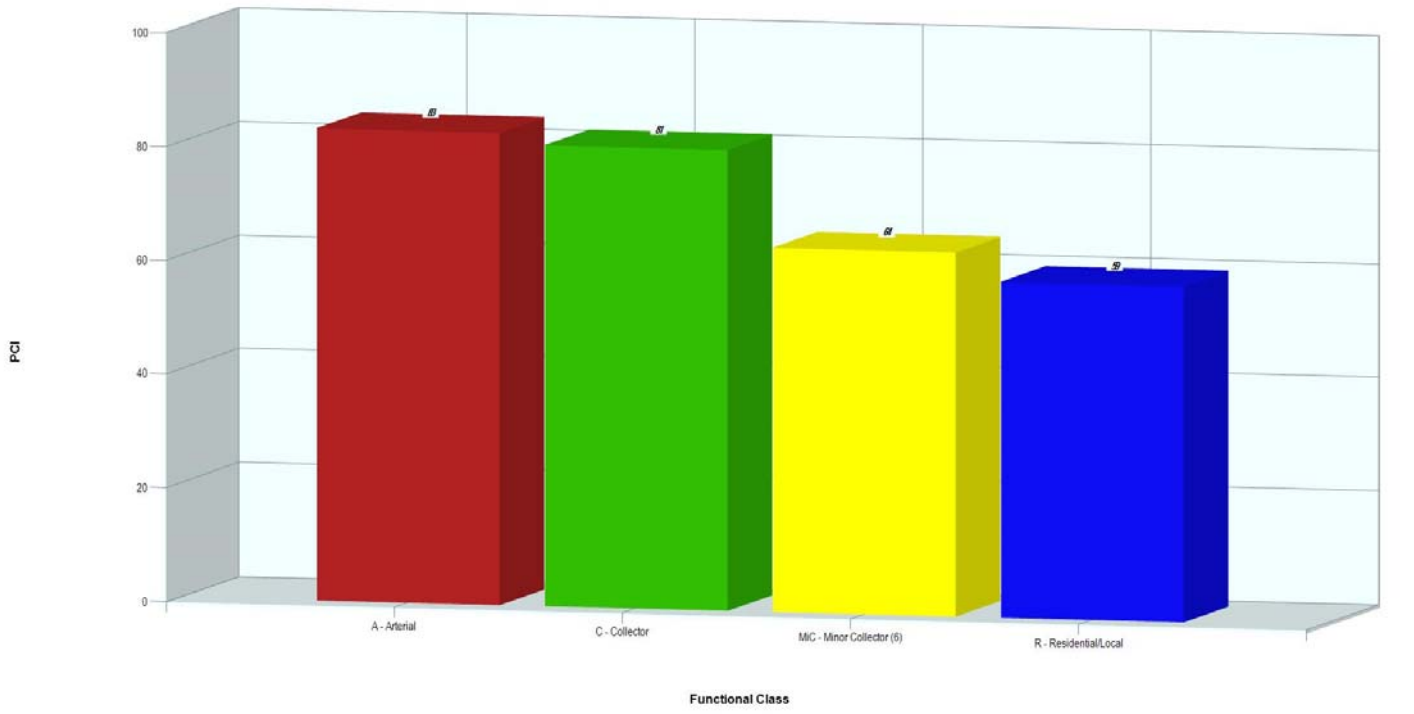




PCI Segment Distribution



Weighted Average PCI by Functional Class



6.6.

Construction Boilerplate Specifications

SECTION 00330 – **EARTHWORK**

Comply with Section 00330 of the Standard Specifications supplemented and/or modified as follows:

00330.80 Measurement – Add the following bullet:

- Lump Sum Basis, When measurement is by Lump Sum, no measurement of quantities will be made.

00330.93 Excavation Basis Payment – Delete the following subsection and substitute the following:

Pay Item	**Unit of Measurement**
(a) Ditch Excavation	Ton, Cubic Yard or Lump Sum
(b) Foundation Excavation	Ton, Cubic Yard or Lump Sum
(c) Toe Trench Excavation	Ton, Cubic Yard or Lump Sum
(f) General Excavation	Ton, Cubic Yard or Lump Sum
(h) Borrow Excavation	Ton, Cubic Yard or Lump Sum

SECTION 01040 – PLANTING

Comply with Section 01040 of the Standard Specifications supplemented and/or modified as follows:

Section 1040.14 Topsoil. Add the following subsection:

(d) Stormwater Facility Blended Soil – Following the general provisions for topsoil, and incorporating the following requirements, furnish imported blended soil for all vegetated stormwater facilities conforming to the following:

(1) General Composition - Use material that is any blend of loamy soil, sand, and compost that is 30-40% compost (by volume) and meets the other criteria in this specification.

(2) Analysis Requirements for the Blended Material:

a. Particle Gradation - A sieve analysis of the blended material, including compost, shall be conducted in conformance with ASTM C117/C136, AASHTO T11/T27, ASTM D422/D1140, or ASTM D6913. The analysis shall include the following sieve sizes: 1 inch, 3/8 inch, #4, #10, #20, #40, #60, #100, #200. The gradation of the blend shall meet the following gradation criteria.

Sieve Size	Percent Passing
1 inch	100
# 4	75 -100
# 10	40-100
# 40	15-50
# 100	5-25
# 200	5-15

b. Acidity - The pH (Power of Hydrogen) of the blended material shall be tested and be between 6 to 8**.**

(2) General Requirements for the Blended Material:

a. The material shall be loose and easily broken into small pieces
b. It shall be well mixed and homogenous.
c. It shall be free of wood pieces, plastic, and other foreign matter.
d. It shall have no visible free water.

(4) Compost - The compost shall be derived from plant material and provided by a member of the US Composting Council Seal of Testing Assurance (STA) program. See www.compostingcouncil.org for a list of local providers. The compost shall be the result of the biological degradation and transformation of plant derived materials under conditions designed to promote aerobic decomposition. The material shall be well composted, free of viable weed seeds, and stable with regard to oxygen consumption and carbon dioxide generation. The compost shall have no visible free water and produce no dust when handled. It shall meet the following criteria, as reported by the US Composting Council STA Compost Technical Data Sheet provided by the vendor.

- 100% of the material must pass through a 1/2-inch screen.
- The pH of the material shall be between 6 min. and 8.5 max.
- Manufactured inert material (plastic, concrete, ceramics, metal, etc.) shall be less than 1.0% by weight.
- The organic matter content shall be between 30 and 70% (dry weight basis).
- Soluble salt content shall be less than 6.0 mmhos/cm.
- Maturity Indicator shall be greater than 80% for Germination and Vigor.
- Stability shall be 'Stable' to 'Very Stable'.
- Carbon/Nitrogen (C/N) ratio shall be less than 25:1.
- Trace metals test result = "Pass."

(5) Submittals - At least 14 working days in advance of construction, submit the following:

a. Documentation for the two analyses described in section 01040.14(d)(2) of this specification (particle gradation and pH) shall be performed by an accredited laboratory with current certification. The date of the analyses shall be no more than 90 calendar days prior to the date of the submittal. Include the following information in the report:

- Name and address of the laboratory.
- Phone contact and e-mail address for the laboratory.
- Test data, including the date and name of the test procedure.

b. For the compost component of the blended soil, a compost technical data sheet from the vendor. The analysis and report must conform to the sampling and reporting requirements of the US Composting Council Seal of Testing Assurance (STA) program. The analysis shall be performed and reported by an approved independent STA program laboratory and be no more than 90 calendar days prior to the date of the submittal.

c. Up to two 5-gallon buckets of the blended material, as requested.

(6) Stormwater Facility Blended Soil Installation - See 01040.43(e).

CONSTRUCTION

01040.43(e) Stormwater Facility Blended Soil:

(1) Protection of the Soil - The material shall be protected from all sources of contamination, including weed seeds, while at the supplier, in conveyance, and at the project site.

(2) Wet and Winter Conditions - Hauling and placement of the material will not be allowed when the weather is too wet or the ground is frozen or saturated as determined by the Owners Representative.

(3) Placement of the Soil – Place the material in loose lifts, not to exceed 8 inches each and each lift shall be compacted with a water-filled landscape roller. Do not otherwise mechanically compact the material.

(4) Timing of Plant Installation - Weather permitting and as approved, install plants as soon as possible after placing and grading the soil in order to minimize erosion and further compaction.

(5) Erosion Control - Temporary erosion control measures are required until permanent stabilization measures are functional.

(6) Protection of the Installed Soil - In all cases, the protect installed material from foot or equipment traffic and surface water runoff. Install temporary fencing or walkways as needed to keep workers, pedestrians, and equipment out of the area. Under no circumstances should materials and equipment be stored on top of the installation area.

PAYMENT

1040.90 Payment Add the following subsection:

1040.90(h) Stormwater Facility Blended Soil – Will be paid at the Contract unit price, cubic yard, for the item “Stormwater Facility Blended Soil”

SECTION 00320 – CLEARING AND GRUBBING

Comply with Section 00320 of the Standard Specifications supplemented and/or modified as follows:

Section 00320.41 Grubbing Operations – Add the following subsection to this section:

Tree roots may be encountered during excavation. The Contractor may do his own root pruning, but shall have a licensed arborist as a subContractor to provide advice on root pruning. The arborist will supply written guidelines on root pruning procedures prior to any pruning. These will include proper methods for cutting roots, maximum root size that may be cut without review (in inches or a percentage of caliper), and a list of tools required to be kept on-site for pruning. Roots will be properly removed prior to placing new materials. If the Contractor does not follow the guideline, the Engineer may require that the arborist does the required pruning at no additional cost to the City.

If root pruning will endanger the life or stability of a tree, the arborist will supply a brief written description of the problem and indicate possible options. Options may include, but are not limited to, realigning the facility, deflecting the facility, or removal of the tree. The Contractor will notify the Engineer immediately and forward the arborist's report. If any option(s) requires work in addition to defined bid items, the Contractor will provide a proposed cost for the additional work. If the Contractor is directed to do additional work, a change order to compensate the Contractor will be executed prior to performing the work. No additional payment will be made for realignment or deflection to a facility.

SECTION 01040 – PLANTING

Comply with Section 01040 of the Standard Specifications supplemented and/or modified as follows:

Section 01040.60 Restoration – Add the following subsection to this section:

Existing landscaping or seeded areas impacted by construction and or the contractor's activities that are not included as landscaping in the project plans shall be considered restoration.

Restoration shall conform to the specification appropriate to the type of restoration to be performed including planting, seeding, mulching and other work to restore the area to condition existing prior to construction or the contractor's activities or better.

SECTION 00743 – POROUS ASPHALT CONCRETE

Comply with Section 00743 of the Standard Specifications supplemented and/or modified as follows:

Section 00743.10 Aggregate Add the following subsection:

00743.10(c) KBI Flexi-Pave HD2000 - KBI Flexi-Pave HD2000 and shall have a composition of 50% stone aggregate and 50% chipped rubber tires by weight for trails, carts paths, sidewalks and tree surrounds. For vehicular applications, such as driveways and parking lots, the composition shall be 50% stone aggregate and 50% chipped rubber tires by volume.

Section 00743.11 Asphalt Cement, Additives, and Aggregate Treatments Add the following subsection:

00743.11(c) KBI Flexi-Pave HD2000 - KBI Flexi-Pave HD2000 shall be mixed with a urethane binding agent based on MDI Polyether Polyols and shall be free of extender oils to prevent leaching over time. Binders that use extender oils will not be acceptable.

Section 00743.12(c) Mix Type and Broadband Limits Add the following subsection:

00743.12(c) KBI Flexi-Pave HD2000 – Contractor to provide KBI Flexi-Pave HD2000 in accordance with manufactures requirements, Granite Concrete or Slate in color.

Section 00743.40 Season and Temperature Limits Add the following to this subsection:

KBI Flexi-Pave HD2000 shall not be installed when the ambient air temperature in the shade near the installation site is above 95° F or below 32° F. The Contractor shall not pave on days when rain or snow is forecast. In the event of rain on days prior to installation, the sub base must be dry and not contain any standing or moving water.

6.7.

Clay Pipe Replacement

Clay Sewer Pipe Replacement

DATES
October 2018 - May 2019

PROJECT STATUS
Under Construction

PROJECT TYPE
Sewer

CONTACT
Wendy Marshall, PE
Project Manager
Phone: 503.786.7694
Email: marshallw@milwaukieoregon.gov(link sends e-mail)

PROJECT DETAILS

This project involves replacing old clay sewer pipe as indicated in the attached map. These pipes include some of the original sewer systems in Milwaukie and are up to 90 years old.

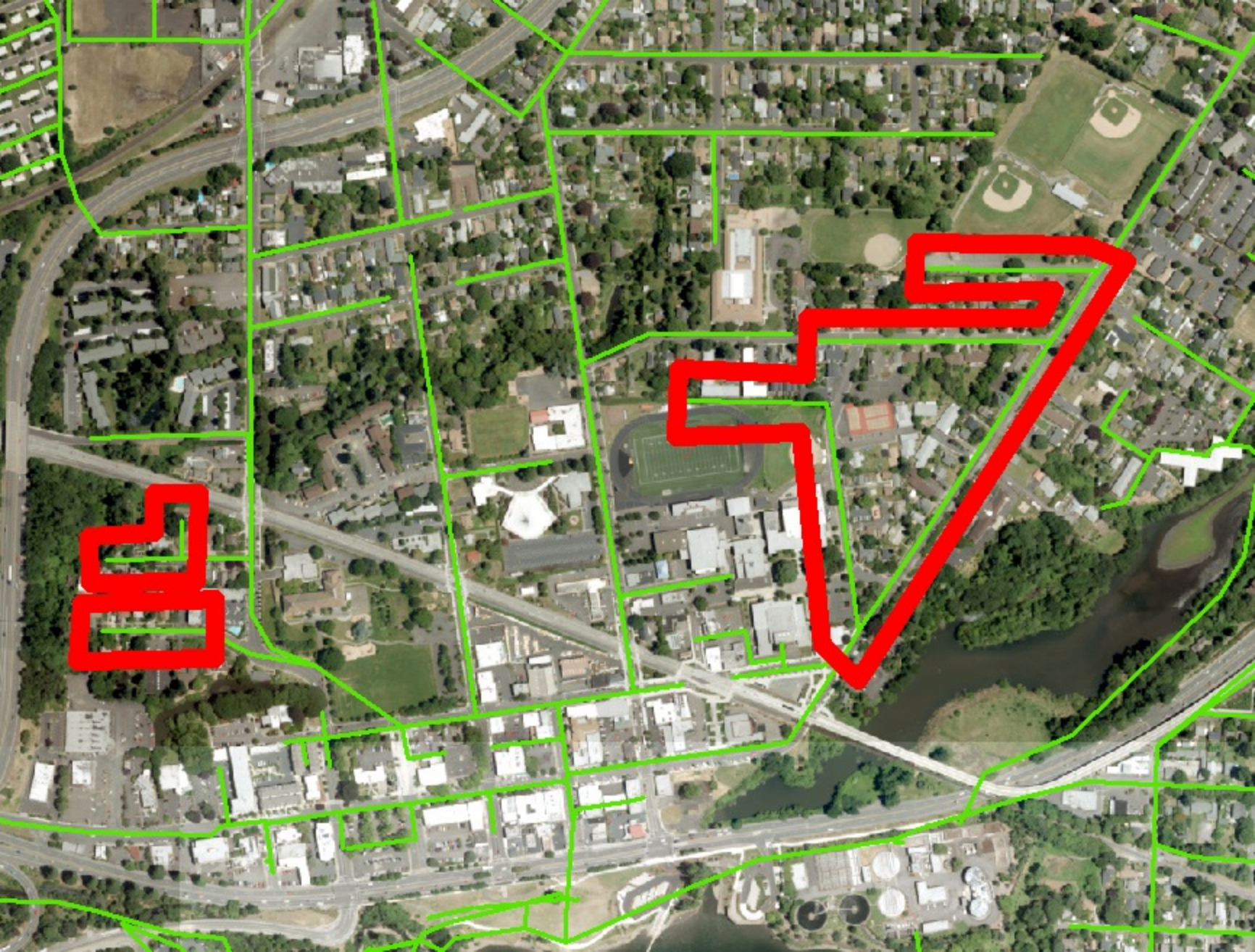
The Clay Sewer Pipe Replacement Program ensures old clay piping is replaced with modern materials. The old pipe is brittle with many breaks, failed joints, and an increasing potential for back-ups as roots clog the pipes. This allows groundwater to enter pipes, overloading the treatment plant during heavy rain.

Pipe replacement in SE 29th Ave will not be completed with this project but will be scheduled at a later date.

Landis & Landis Construction has begun work in early October and is anticipated to finish ahead of the May 2019 deadline.

6.7.1.

Project Map



6.7.2.

Full CIP-2017-X10 Project

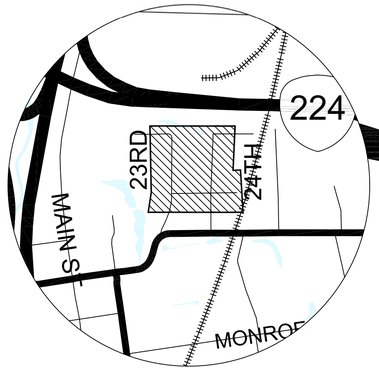
CITY OF MILWAUKIE
APPROVED FOR CONSTRUCTION

City Engineer

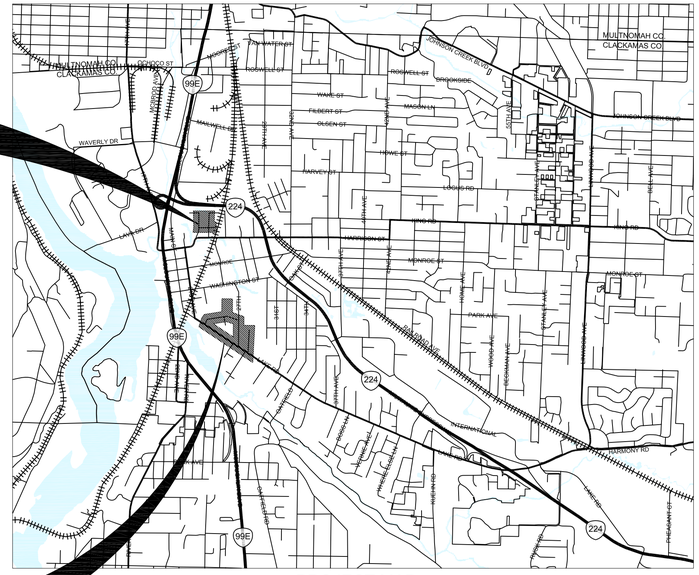
Date

CITY OF MILWAUKIE, OREGON
2017 CLAY SEWER PIPE REPLACEMENT
CIP-2017-X10

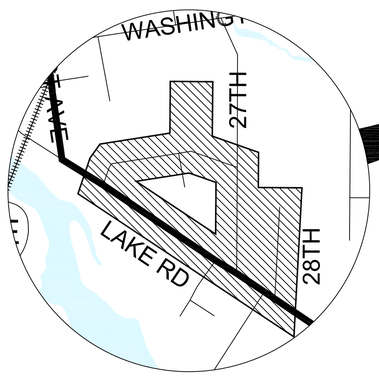
CONTRACTOR TO CONFIRM EXISTING RIM AND INVERT ELEVATIONS PRIOR TO CONSTRUCTION. PLANS BASED ON GIS INFORMATION.



PROJECT VICINITY
(SEWER LINE)
Scale: N.T.S.



PROJECT MAP
Scale: N.T.S.



PROJECT VICINITY
(SEWER LINE)
Scale: N.T.S.

Oregon law requires Contractors to follow rules adopted by the Oregon Utility Notification Center. Those rules are set forth in OAR 952-001-0010 through 952-001-0090. Contractors may obtain copies of the rules by calling the Oregon Utility Notification Center at 503-232-1987.

811 Know what's below. Call before you dig.

PROJECT DESCRIPTION

The project consists of replacing sanitary sewer lines along SE 23rd Avenue and SE 24th Avenue and SE Lake Road, SE Willard Street, SE 27th Avenue and SE 28th Avenue.

PROJECT MANAGER

Name:	Jennifer Garbely
Title:	Assistant City Engineer
Phone Number:	(503) 786-7609
Email Address:	GarbelyJ@milwaukieoregon.gov

DESIGN ENGIEER

Name:	Sheri Markwardt, PE
Title:	Civil Engineer
Phone Number:	(503) 786-7610
Email Address:	MarkwardtS@milwaukieoregon.gov

MILWAUKIE OPERATIONS

Name:	Emergency On-Call
Phone Number:	(503) 348-8833

PORTLAND GENERAL ELECTRIC

Name:	Todd Jones
Phone Number (Office):	503-736-5404
Phone Number (Emergency):	(503) 464-7777
Phone Number (Service):	(503) 736-8280

NORTHWEST NATURAL

Name:	Nina Carlson
Email:	NINA.CARLSON@NWNATURAL.COM

CENTURY LINK

Name:	Samantha Ridderbusch
Email:	SAMANTH.RIDDERBUSCH@CENTURYLINK.COM

COMCAST

Name:	Mathew Bravo
Phone Number:	(503) 813-0576
Email:	MATTHEW_BRAVO@COMCAST.COM

CITY OF MILWAUKIE
ENGINEERING DEPARTMENT
6101 SE JOHNSON CREEK BLVD
MILWAUKIE, OR 97206
PHONE (503) 786-7600
FAX (503) 774-8236

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NO.	DATE	BY	REVISIONS
2	3/12/18	SLM	UPDATE DETAILS
1	11/16/17	SLM	APPROVED BID DRAWINGS

SLM DESIGNED	7/30/2017 DATE
SLM DRAFTED	9/15/2017 DATE
JEG CHECKED	11/15/2017 DATE
CLE APPROVED	3/12/2018 DATE

REGISTERED PROFESSIONAL ENGINEER
84366PE
SHERI LYNN MARKWARDT
MAY 22, 2015
EXPIRES: DECEMBER 31, 2018

CITY OF MILWAUKIE

6101 SE JOHNSON CREEK BLVD.
MILWAUKIE, OR 97206

PHONE: 503-786-7600
FAX: 503-774-8236

2017 CLAY SEWER PIPE REPLACEMENT

COVER SHEET

PROJECT NO.:	CONTRACT NO.:	DATE:	SHEET NO.:
2017-X10		11/16/2017	CV01

Z:\Engineering\Capital Projects (CIP And CMP)\CIP-2017-X10 (Clay Replacement Project)\CADD\Plan Sheets\2017-X10-CV1.dwg Jun. 05, 2018 - 9:40 AM sheri markwardt
Plot Date: 6/5/2018 11:33 AM sheri markwardt

GENERAL REQUIREMENTS NOTES

1. THE LOCATION AND DESCRIPTION OF UTILITIES AND PROPERTY LINES SHOWN ARE COMPILED FROM AVAILABLE RECORDS AND FIELD SURVEYS. THE CITY AND UTILITY COMPANIES DO NOT GUARANTEE THE ACCURACY NOR THE COMPLETENESS OF SUCH RECORDS.
2. THE CONTRACTOR SHALL TAKE NO ADVANTAGE OF ANY ERRORS, OMISSIONS, OR DISCREPANCIES IN THE PLANS. WHEN ERRORS, OMISSIONS OR DISCREPANCIES ARE FOUND, THE ENGINEER SHALL BE NOTIFIED. WORK PERFORMED BY THE CONTRACTOR AS A RESULT OF AN ERROR, OMISSION OR DISCREPANCY IN THE PLANS SHALL BE AT THE CONTRACTOR'S RISK AND EXPENSE WHEN SUCH ERROR, OMISSION, OR DISCREPANCY HAS NOT BEEN BROUGHT TO THE ATTENTION OF THE ENGINEER.
3. THE CONTRACTOR SHALL HAVE AT ALL TIMES ON-SITE, THE APPROVED CONSTRUCTION PLANS & SPECIAL SPECIFICATIONS, CITY OF MILWAUKIE STANDARD SPECIFICATIONS & STANDARD PLANS, THE 2016 CITY OF PORTLAND STORMWATER MANAGEMENT MANUAL, AND ALL OTHER APPLICABLE SPECIFICATIONS BOOKS AND MANUALS.
4. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THESE PLANS AND THE APPLICABLE REQUIREMENTS OF THE CITY OF MILWAUKIE MANUAL. IN ADDITION, SIGNALS, STREET LIGHTING, AND STRUCTURES SHALL CONFORM TO THE 2018 EDITION OF THE OREGON (ODOT/APWA) STANDARD SPECIFICATIONS FOR CONSTRUCTION. ALSO, THE STORMWATER FACILITIES SHALL CONFORM TO THE 2016 CITY OF PORTLAND STORMWATER MANAGEMENT MANUAL.
5. THE CONTRACTOR SHALL REMOVE ALL MATERIALS EXCAVATED FROM WORK IN THE RIGHT-OF-WAY AND DISPOSE AT A PROPER LANDFILL. FOR ON-SITE DISPOSAL ON PRIVATE PROPERTY, SECURE A FILL PERMIT, PRIOR TO BEGINNING WORK FROM THE CITY OF MILWAUKIE.
6. THE CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE CITY OF MILWAUKIE ENGINEERING DEPARTMENT PRIOR TO THE START OF WORK. THE CONTRACTOR SHALL PROVIDE 2 WEEKS' NOTICE TO SCHEDULE A PRE-CONSTRUCTION MEETING.
7. CONTRACTOR SHALL CALL CITY OF MILWAUKIE INSPECTION LINE 24 HOURS IN ADVANCE TO SCHEDULE INSPECTION FOR THE FOLLOWING WORK:
   - PUBLIC UTILITY CONNECTIONS
   - STREET SUB-GRADE
   - STREET BASE AGGREGATE
   - STREET PAVEMENT INSTALLATION
   - CURB & SIDEWALK FORMS
   - FINAL INSPECTION
   - PUBLIC UTILITY TESTING
8. FOR UNANTICIPATED CONTAMINATION ENCOUNTERED DURING CONSTRUCTION IN THE CITY RIGHT-OF-WAY: THE PERMITTEE/APPLICANT OR ITS AGENT SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE MANAGEMENT, AND DISPOSAL OF CONTAMINATED MEDIA ENCOUNTERED. THE PERMITTEE IS ALSO RESPONSIBLE FOR ALL RESULTANT DELAYS.
9. ANY LANDSCAPING/TREES DAMAGED OR DESTROYED DURING CONSTRUCTION SHALL BE REPAIRED IN CONFORMANCE WITH CITY OF MILWAUKIE STANDARDS.
10. CONTRACTOR SHALL NOT USE THE PUBLIC RIGHT OF WAY FOR STORAGE OF EQUIPMENT, MATERIALS, CONSTRUCTION TRAILERS, AND CONSTRUCTION VEHICLES.
11. IT IS THE OBLIGATION OF THE CONTRACTOR TO OBTAIN WRITTEN APPROVAL FROM PRIVATE PROPERTY OWNERS FOR USE OF PRIVATE PROPERTY FOR CONSTRUCTION STAGING AND TO RESTORE PRIVATE PROPERTY TO A CONDITION SATISFACTORY TO PROPERTY OWNER AT PROJECT COMPLETION.
12. CONTRACTOR SHALL INSTALL, UTILIZE, AND MAINTAIN EROSION PREVENTION AND SEDIMENT CONTROL DEVICES IN ACCORDANCE WITH THE EROSION PREVENTION & SEDIMENT CONTROL PLAN.

UTILITIES

1. ATTENTION EXCAVATORS: OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. YOU MAY OBTAIN COPIES OF THESE RULES FROM THE CENTER BY CALLING 503.232.1987. IF YOU HAVE ANY QUESTIONS ABOUT THE RULES, YOU MAY CONTACT THE CALL CENTER. YOU MUST NOTIFY THE CENTER AT LEAST 2 BUSINESS DAYS, BUT NOT MORE THAN 10 BUSINESS DAYS, BEFORE COMMENCING AN EXCAVATION. CALL 503.246.6699 OR 1.800.332.2344.
2. UTILITY LOCATIONS SHALL BE VERIFIED BY OREGON UTILITIES NOTIFICATION CENTER IMMEDIATELY PRIOR TO ANY EXCAVATION. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING UTILITY LOCATE MARKINGS FOR THE DURATION OF THE PROJECT.
3. PROVISIONS SHALL BE MADE BY THE CONTRACTOR TO KEEP ALL EXISTING UTILITIES IN SERVICE AND PROTECT THEM DURING CONSTRUCTION. THE UTILITY OWNER SHALL BE NOTIFIED IN THE EVENT OF DAMAGE. REPAIRS WILL BE MADE AT THE CONTRACTOR'S EXPENSE.
4. FOR ANY EXISTING UNDERGROUND UTILITY CONFLICTING WITH PROPOSED SEWER SYSTEM IMPROVEMENTS, CONTRACTOR SHALL COORDINATE PROTECTION OR RELOCATION WITH UTILITY COMPANY.
5. UTILITIES SHOWN ON THESE PLANS ARE FOR INFORMATION AND COORDINATION PURPOSES ONLY AND ARE NOT AUTHORIZED FOR INSTALLATION UNDER THE PUBLIC STREET IMPROVEMENT PERMIT. UTILITY COMPANIES ARE REQUIRED TO SECURE SEPARATE UTILITY PERMITS FROM THE CITY FOR ANY WORK WITHIN THE PUBLIC RIGHT-OF-WAY.
6. UTILITIES OR INTERFERING PORTIONS OF UTILITIES THAT ARE ABANDONED IN PLACE SHALL BE REMOVED BY THE CONTRACTOR TO THE EXTENT NECESSARY TO ACCOMPLISH THE WORK. ABANDONED UTILITIES SHALL BE VERIFIED BY CITY STAFF PRIOR TO REMOVAL. THE CONTRACTOR SHALL PLUG THE REMAINING EXPOSED ENDS OF ABANDONED UTILITIES WITH CONCRETE A MINIMUM OF 2 FEET INTO THE PIPE OR INSTALL RESTRAINING CAPS, WHICHEVER IS CALLED OUT ON THE PLANS.
7. ALL UTILITY CROSSINGS SHALL BE POTHOLED PRIOR TO EXCAVATION TO ALLOW FOR GRADE ADJUSTMENTS DUE TO ALIGNMENT CONFLICTS. THE USE OF BENDS TO AVOID ALIGNMENT CONFLICTS WILL NOT BE ALLOWED UNLESS OTHERWISE INDICATED.

STREET PAVEMENT

1. THE CONTRACTOR SHALL ADJUST ALL VALVE BOXES AND WATER METERS TO FINISHED STREET OR DRIVEWAY GRADE.
2. THE CONTRACTOR SHALL SAWCUT STRAIGHT MATCHLINES TO CREATE A BUTT JOINT BETWEEN THE EXISTING PAVEMENT AND NEW PAVEMENT. SEAL ALL NEW PAVEMENT JOINTS WITH RUBBERIZED SEALANT.
3. CONTRACTOR TO REPAIR UTILITY TRENCHES WITH A T-CUT PER CITY OF MILWAUKIE STANDARDS.
4. AGGREGATE BASE SHALL BE COMPACTED TO 95% MAX. DENSITY AS DETERMINED BY AASHTO T-180. CONTRACTOR TO HAVE AGGREGATE BASE COMPACTION TESTING CONDUCTED BY A QUALIFIED TESTING FACILITY PRIOR TO PLACEMENT OF ASPHALT CONCRETE WITHIN THE PUBLIC RIGHT-OF-WAY. TEST REPORTS TO BE PROVIDED TO CITY OF MILWAUKIE.
5. EACH LIFT OF ASPHALT CONCRETE SHALL BE COMPACTED TO 92% RICE DENSITY IN CONFORMANCE WITH AASHTO T-209. CONTRACTOR TO HAVE ASPHALT CONCRETE COMPACTION TESTING CONDUCTED BY A QUALIFIED TESTING FACILITY WITHIN THE PUBLIC RIGHT-OF-WAY. TEST REPORTS TO BE PROVIDED TO CITY OF MILWAUKIE.
6. ALL EXCAVATIONS WITHIN THE PAVED STREET SHALL BE TEMPORARILY RESURFACED AT THE END OF EACH WORK DAY AND PRIOR TO ALLOWING VEHICULAR TRAFFIC ONTO EXCAVATED AREAS. CONTRACTOR SHALL BE RESPONSIBLE FOR PLACING, MAINTAINING, AND REMOVING TEMPORARY SURFACING MATERIALS. NO MEASUREMENT WILL BE MADE FOR TEMPORARY SURFACING MATERIALS AND IS CONSIDERED INCIDENTAL TO THE WORK.

TRAFFIC CONTROL

1. ALL SIGNING, STRIPING AND PERMANENT BARRICADES TO BE INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL SUBMIT TRAFFIC CONTROL PLANS FOR THE WORK IN THE RIGHT-OF-WAY AT THE PRE-CONSTRUCTION MEETING.
2. ALL TRAFFIC CONTROL MEASURES SHALL CONFORM WITH THE 2009 EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND 2011 EDITION OF THE OREGON TEMPORARY TRAFFIC CONTROL HANDBOOK (OTTCH) FOR OPERATIONS OFTHREE DAYS OR LESS.
3. THESE TRAFFIC CONTROL PLANS ARE SCHEMATIC IN NATURE AND ARE CONSIDERED THE MINIMUM NECESSARY TO ADEQUATELY MANAGE TRAFFIC DURING CONSTRUCTION.
4. EACH TRAFFIC CONTROL DETAIL IS TO BE IMPLEMENTED WITH THE ASSOCIATED TYPE OF WORK. FOR EXAMPLE, THE "WATER MAIN & SERVICE INSTALLATION" DETAIL CAN BE FLIPPED TO USE ON THE OPPOSITE SIDE OF THE ROADWAY AND THE "LANE CLOSURE AT INTERSECTION WITH FLAGGING" DETAIL CAN BE FLIPPED TO USE ON ANY OF THE FOUR INTERSECTION CORNERS.
5. CONTRACTOR SHALL INSTALL AND MAINTAIN ALL TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THIS PLAN THROUGHOUT THE DURATION OF CONSTRUCTION.
6. ALL TRAVEL LANES, STREETS, DRIVEWAYS, AND POINTS OF ACCESS SHALL BE OPENED TO VEHICULAR TRAFFIC AT THE END OF EACH WORK DAY. ALL AREAS OF EXCAVATION WITHIN THE TRAVELED WAY SHALL BE TEMPORARILY COVERED WITH STEEL PLATES OR BACKFILLED AND TEMPORARILY SURFACED WITH ASPHALT CONCRETE PATCHING UNTIL FINAL PAVING.
7. CONTRACTOR SHALL PROVIDE VEHICULAR ACCESS TO SIDE STREETS AND DRIVEWAYS TO THE EXTENT PRACTICABLE. WHEN VEHICULAR ACCESS CANNOT BE PROVIDED, THE CONTRACTOR WILL NOTIFY THE AFFECTED BUSINESS / PROPERTY OWNER OF THE DATE AND DURATION OF THE INTERRUPTION, 24 HOURS IN ADVANCE OF THE CLOSURE.
8. SIGN LOCATIONS ARE APPROXIMATE. FINAL SIGN LOCATION SHALL BE DETERMINED BY CITY ENGINEER IN THE FIELD.
9. TRAFFIC CONTROL SIGNS SHALL BE SIZED IN ACCORDANCE WITH CONVENTIONAL ROADWAY STANDARDS OF THE MUTCD.
10. TRAFFIC CONTROL SIGNS SHALL BE SPACED IN ACCORDANCE WITH THE MUTCD AND OTTCH FOR 35 MPH VEHICULAR SPEEDS.
11. LANE SHIFTING AND MERGER TAPERS SHALL HAVE A LENGTH NECESSARY TO ACCOMMODATE 35 MPH VEHICULAR SPEEDS.
12. CONE LOCATIONS ARE SCHEMATIC AND DENOTE LANE LOCATIONS, LANE TAPERS, AND WORK AREAS AND DO NOT INDICATE THE NUMBER OF CONES TO BE PLACED. CONTRACTOR WILL PLACE CONES IN A NUMBER SUFFICIENT TO ADEQUATELY DELINEATE AND DIRECT TRAFFIC AROUND WORK AREAS.
13. THE MINIMUM VEHICLE TRAVEL LANE WIDTH SHALL BE A 12-FOOT CLEAR DISTANCE PERPENDICULAR TO THE DIRECTION OF TRAVEL.
14. CONTRACTOR TO PROVIDE TRAFFIC CONTROL PLAN FOR ASPHALT CONCRETE PAVING AT THE PRE-PAVING MEETING.
15. WORK AT SIGNALIZED INTERSECTIONS REQUIRES FLAGGERS TO BE STATIONED AT EACH LEG OF THE INTERSECTION AND THE TRAFFIC SIGNAL TURNED OFF. CONTACT CLACKAMAS COUNTY AT 503 650-3735 TO SCHEDULE SIGNAL SHUT DOWNS.

SANITARY SEWER NOTES

1. ALL WORK AND MATIERIALS TO CONFORM WITH THE CONSTRUCTION STANDARDS AND SPECIFICATIONS OF THE CITY OF MILWAUKIE.
2. MATERIALS: POLYVINYL CHLORIDE PIPE (PVC) SHALL CONFORM TO THE REQUIREMENTS OF ASTM D-3034, SOR 35 AND JOINT TYPE SHALL MEET THE REQUIREMENTS OF ASTM C-3212.
3. POLYVINYL CHLORIDE PIPE SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS' RECOMMENDATIONS. PVC SEWER PIPE SHALL BE CONNECTED TO CONCRETE MANHOLES BY MEANS OF AN APPROVED COUPLING WITIH AN ELASTOMERIC GASKET. AN APPROVED WATER STOP OR FLEXIBLE SLEEVE.
4. PVC SEWER PIPE SHALL BE DEFLECTION TESTED NO LESS THAN 30-DAYS AFTER THE TRENCH BACKFILL AND COMPACTION HAS BEEN COMPLETED. THE TEST SHALL BE CONDUCTED BY PULLING AN APPROVED SOLID POINTED 95% OF AN INSIDE DIAMETER MANDREL THROUGH THE PIPELINE. LEAKAGE TESTS INCLUDE AN AIR TEST OF THE SEWER MAINS AND LATERALS AND A WATER EXFILTRATION TEST OR VACUUM TEST OF THE MANHOLES. CITY OF MILWAUKIE INSPECTOR SHALL BE PRESENT DURING TESTING.
5. GRANULAR PIPE BEDDING AND TRENCH BACKFILL SHALL CONFORM TO APWA CLASS B PAVED AREAS AND CLASS A IN LANDSCAPE AREAS. GRANULAR BACKFILL SHALL BE COMPACTED TO 95% MAXIMUM DRY DENSITY PER AASHTO T-180 TEST METHOD AND NATIVE MATERIAL SHALL BE COMPACTED TO 85% OF IN PLACE DRY DENSITY OF SURROUNDING SOIL.
6. TRENCHES WTHIN PAVED AREAS SHALL BE BACKFILLED WITH GRANULAR MATERIAL. CONTRACTOR TO DETERMINE TYPE OF EQUIPMENT AND METHOD TO USE TO ACHIEVE THE REQUIRED COMPACTION. SUBSEQUENT SETTLEMENT OF THE FINISHED SURFACE WITHIN THE WARRANTY PERIOD SHALL BE CONSIDERED TO BE AS A RESULT OF IMPROPER COMPACTION AND SHALL BE PROMPTLY REPAIRED BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER.
7. MANHOLES SHALL BE PRECAST CONCRETE SECTIONS WITH MINIMUM INSIDE DIAMETER OF 48-INCHES. CONFORMING TO THE REQUIREMENTS OF ASTM C-478, EXCEPT AS NOTED ON THE PLANS.
8. SANITARY SEWER LATERALS SHALL BE 4" PIPE CONFORMING TO THE SAME SPECIFICATIONS AS SEWER MAINS.
9. THE SERVICE LATERALS SHALL BE 4-INCH MINIMUM AND INSTALLED WITH A MINIMUM GRADE OF 2% UNLESS OTHERWISE SHOWN ON THE PLANS.
10. IN EASEMENT AREAS ALL MANHOLES SHALL HAVE TAMPER-PROOF LIDS OR APPROVED EQUAL. THE FRAME AND COVER SHALL BE 6" ABOVE FINISH GRADE WITH CONCRETE COLLAR.
11. THE CONTRACTOR WILL TV SANITARY SEWER LINES PRIOR TO ACCEPTANCE. LINES WILL BE THOROUGHLY CLEANED PRIOR TO REQUEST FOR INSPECTION. DEBRIS FROM THE CLEANING WILL BE TRAPPED FOR DISPOSAL AND NOT FLUSHED INTO THE SYSTEM. TV REPORT WILL BE GIVEN TO THE CITY PRIOR TO FINAL INSPECTION.

NO.	DATE	BY	REVISIONS
2	3/12/18	SLM	UPDATE DETAILS
1	11/16/17	SLM	APPROVED BID DRAWINGS

DESIGNED	SLM	7/30/2017 DATE
DRAFTED	SLM	9/15/2017 DATE
CHECKED	JEG	11/15/2017 DATE
APPROVED	CLE	3/12/2018 DATE

REGISTERED PROFESSIONAL ENGINEER 84366PE OREGON MAY 22, 2015 SHERI LYNN MARKWARDT
EXPIRES: DECEMBER 31, 2018

CITY OF MILWAUKIE
6101 SE JOHNSON CREEK BLVD.
MILWAUKIE, OR 97206
PHONE: 503-786-7600
FAX: 503-774-8236

2017 CLAY SEWER PIPE REPLACEMENT

GENERAL CONSTRUCTION NOTES

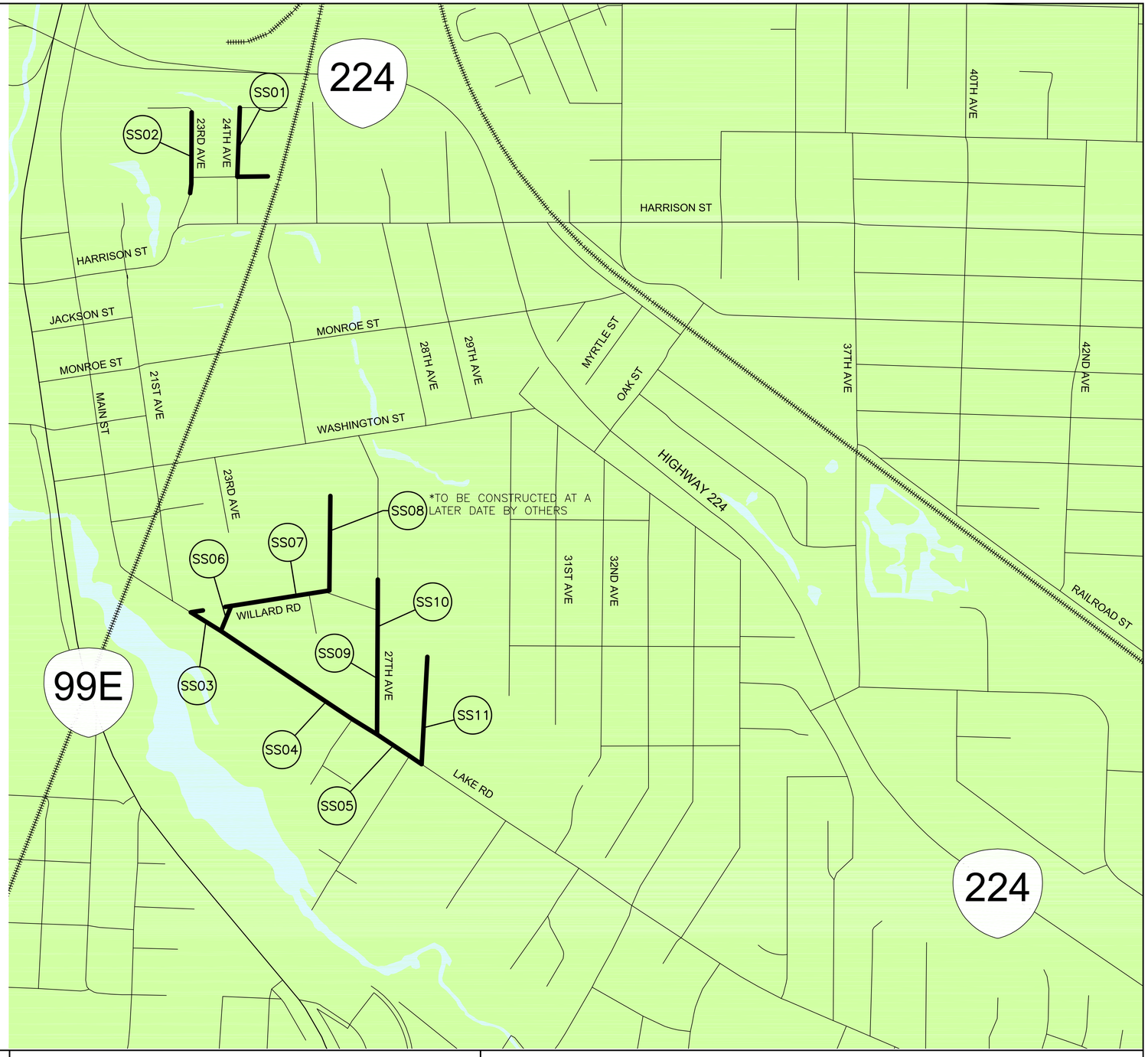
PROJECT NO.:	CONTRACT NO.:	DATE:	SHEET NO.:
2017-X10		11/16/2017	CV02

CONSTRUCTION PLAN LEGEND

- NEW SANITARY SEWER (SAN)
- NEW STORM SEWER (STM)

- EXISTING STORM SEWER (STM)
- EXISTING SANITARY SEWER (SAN)
- EXISTING WATERLINE (W)
- EXISTING GAS (G)
- EXISTING COMMUNICATION LINE (TEL)
- SILT FENCE
- EXISTING STORM MANHOLE
- EXISTING CATCH BASIN
- EXISTING SEWER MANHOLE
- EXISTING FIRE HYDRANT
- EXISTING TELECOMMUNICATIONS MANHOLE
- EXISTING CAPPED SANITARY SEWER LATERAL
- EXISTING WATER METER
- EXISTING TELEPHONE VAULT
- EXISTING TELEPHONE MANHOLE

(#) PLAN AND PROFILE SHEET NUMBER



NO.	DATE	BY	REVISIONS
2	3/12/18	SLM	UPDATE DETAILS
1	11/16/17	SLM	APPROVED BID DRAWINGS

SLM DESIGNED	7/30/2017 DATE
SLM DRAFTED	9/15/2017 DATE
JEG CHECKED	11/15/2017 DATE
CLE APPROVED	3/12/2018 DATE

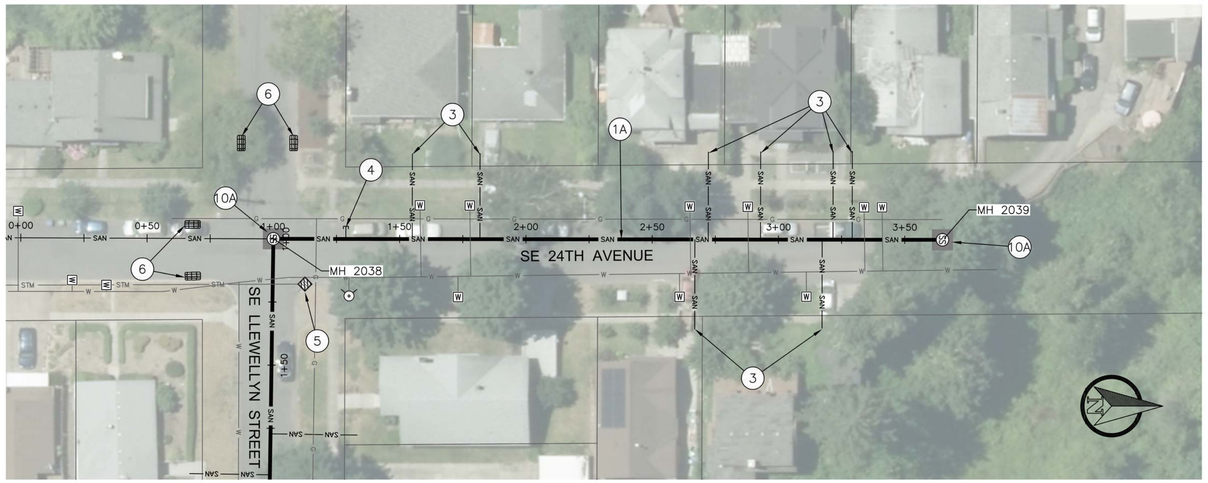
REGISTERED PROFESSIONAL ENGINEER
84366PE
OREGON
MAY 22, 2015
SHERI LYNN MARKWARDT
EXPIRES: DECEMBER 31, 2018

CITY OF MILWAUKIE
6101 SE JOHNSON CREEK BLVD.
MILWAUKIE, OR 97206
PHONE: 503-786-7600
FAX: 503-774-8236

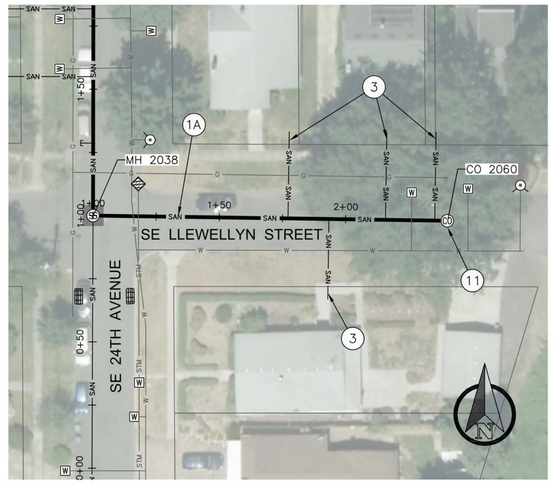
2017 CLAY SEWER PIPE REPLACEMENT

PROJECT MAP

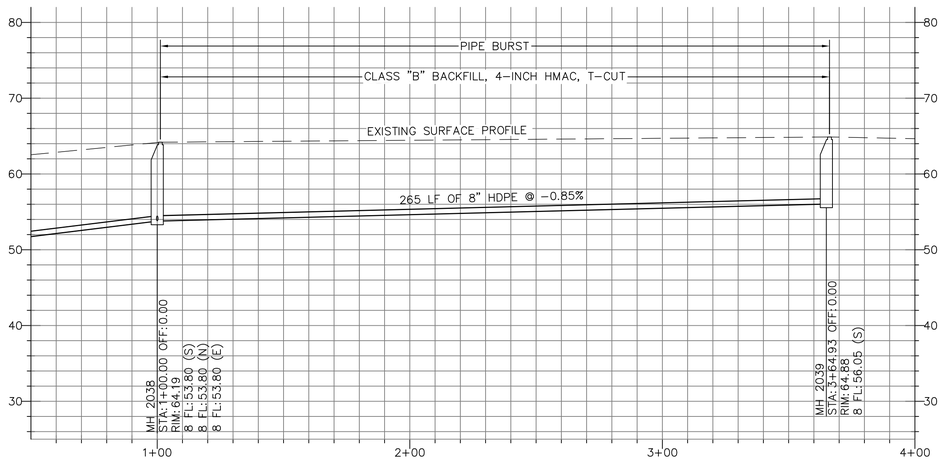
PROJECT NO.:	CONTRACT NO.:	DATE:	SHEET NO.:
2017-X10		11/16/2017	CV03



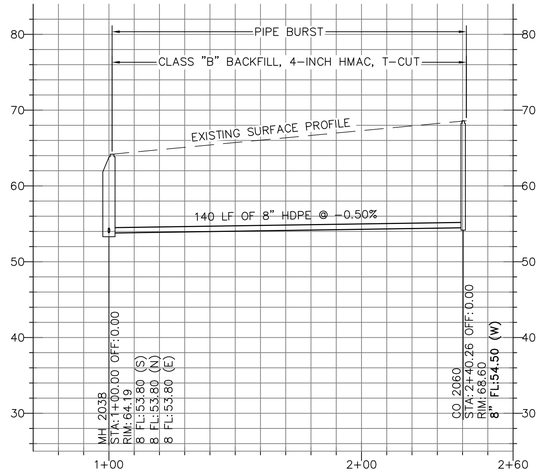
SE 24TH STREET SEWER PLAN
SCALE : 1" = 30'



SE LLEWELLYN STREET SEWER PLAN
SCALE : 1" = 30'



SE 24TH STREET SEWER PROFILE
SCALE : 1" = 30' HORZ 1"=5' VERT



SE LLEWELLYN STREET SEWER PROFILE
SCALE : 1" = 30' HORZ 1"=5' VERT

SANITARY SEWER CONSTRUCTION NOTES:

- (1A) PIPE BURST EXISTING 8" CLAY PIPE WITH 8" HDPE PIPE.
- (3) RECONNECT EXISTING SERVICE LATERAL.
- (4) LATERAL SERVICE CURRENTLY CAPPED. DO NOT RECONNECT.
- (5) INSTALL INLET PROTECTION PER RD1010 AND RD 1015.
- (6) INSTALL BIO BAG IN GUTTER ALONG FLOW LINE.
- (10A) REPLACE SANITARY MANHOLE PER RD338. INSTALL SQUARE CUT MANHOLE FRAME ADJUSTMENT PER RD360. DO NOT INSTALL OPTIONAL STEPS.
- (11) REPLACE CLEAN OUT PER RD362.

NOTE: SANITARY SEWER SERVICE LATERAL LOCATIONS SHOWN ARE APPROXIMATE ONLY. CONTRACTOR SHALL VERIFY LATERAL LOCATIONS PRIOR TO BURSTING EACH LINE.

NOTE: CONTRACTOR TO CONFIRM STATUS (ACTIVE VS INACTIVE) BEFORE CONNECTING LATERALS.

SCALE
0 30 60 FEET
1 INCH = 30 FEET

NO.	DATE	BY	REVISIONS
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REGISTERED PROFESSIONAL ENGINEER
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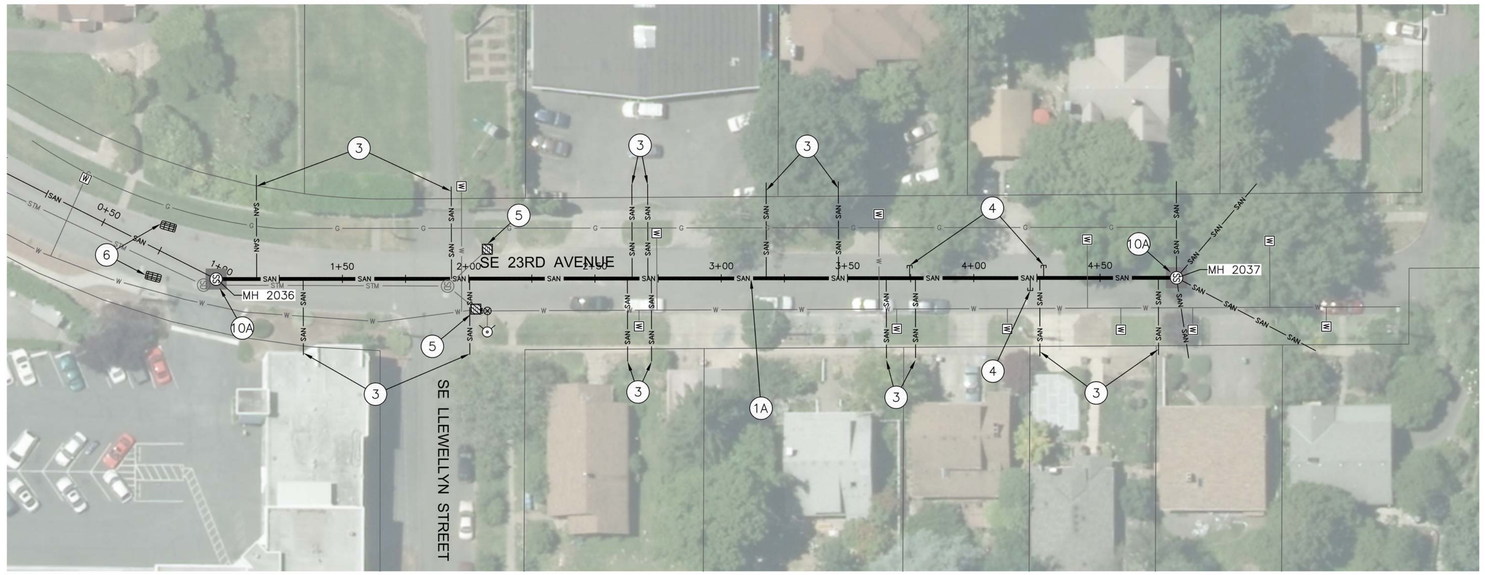
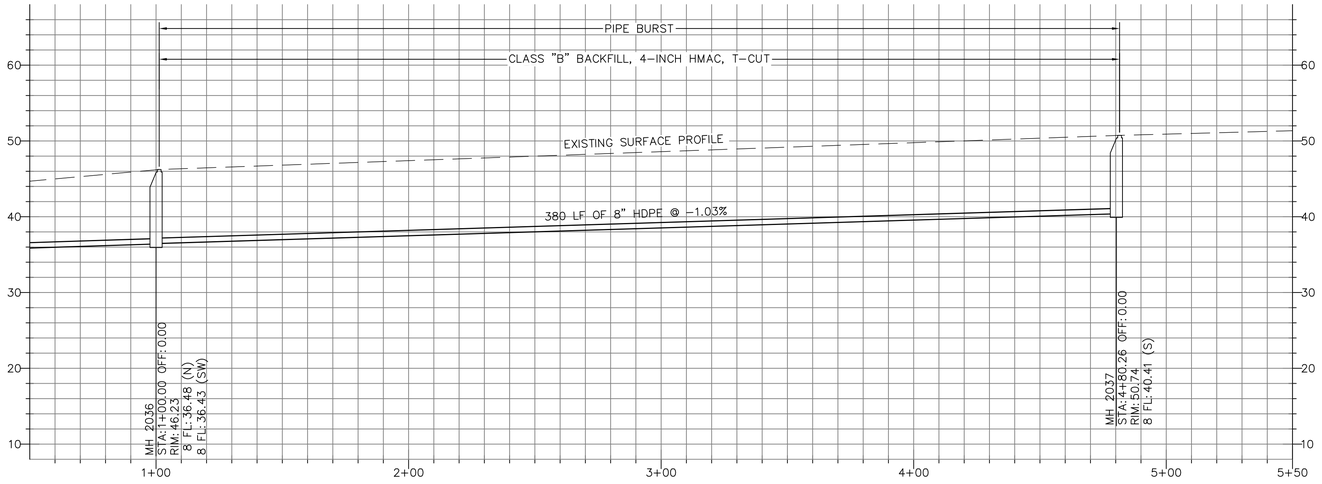
2017 CLAY SEWER PIPE REPLACEMENT

SANITARY SEWER PLAN AND PROFILE - SE 24TH AVENUE

PROJECT NO.:	CONTRACT NO.:	DATE:	SHEET NO.:
2017-X10		11/16/2017	SS01



SE 23RD STREET SEWER PLAN
SCALE : 1" = 30'



SE 23RD STREET SEWER PROFILE
SCALE : 1" = 30' HORZ 1"=5' VERT

SANITARY SEWER CONSTRUCTION NOTES:

1A PIPE BURST EXISTING 8" CLAY PIPE WITH 8" HDPE PIPE.

3 RECONNECT EXISTING SERVICE LATERAL.

4 LATERAL SERVICE CURRENTLY CAPPED. DO NOT RECONNECT.

5 INSTALL INLET PROTECTION PER RD1010 AND RD 1015.

6 INSTALL BIO BAG IN GUTTER ALONG FLOW LINE.

10A REPLACE SANITARY MANHOLE PER RD338. INSTALL SQUARE CUT MANHOLE FRAME ADJUSTMENT PER RD360. DO NOT INSTALL OPTIONAL STEPS.

NOTE: SANITARY SEWER SERVICE LATERAL LOCATIONS SHOWN ARE APPROXIMATE ONLY. CONTRACTOR SHALL VERIFY LATERAL LOCATIONS PRIOR TO BURSTING EACH LINE.

NOTE: CONTRACTOR TO CONFIRM STATUS (ACTIVE VS INACTIVE) BEFORE CONNECTING LATERALS.

SCALE
0 30 60 FEET
1 INCH = 30 FEET

NO.	DATE	BY	REVISIONS
2	3/12/18	SLM	UPDATE DETAILS
1	11/16/17	SLM	APPROVED BID DRAWINGS

SLM	DESIGNED	7/30/2017 DATE
SLM	DRAFTED	9/15/2017 DATE
JEG	CHECKED	11/15/2017 DATE
CLE	APPROVED	3/12/2018 DATE

REGISTERED PROFESSIONAL ENGINEER
84366PE
OREGON
MAY 22, 2015
SHERI LYNN MARKWARDT
EXPIRES: DECEMBER 31, 2018

CITY OF MILWAUKIE

6101 SE JOHNSON CREEK BLVD.
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2017 CLAY SEWER PIPE REPLACEMENT

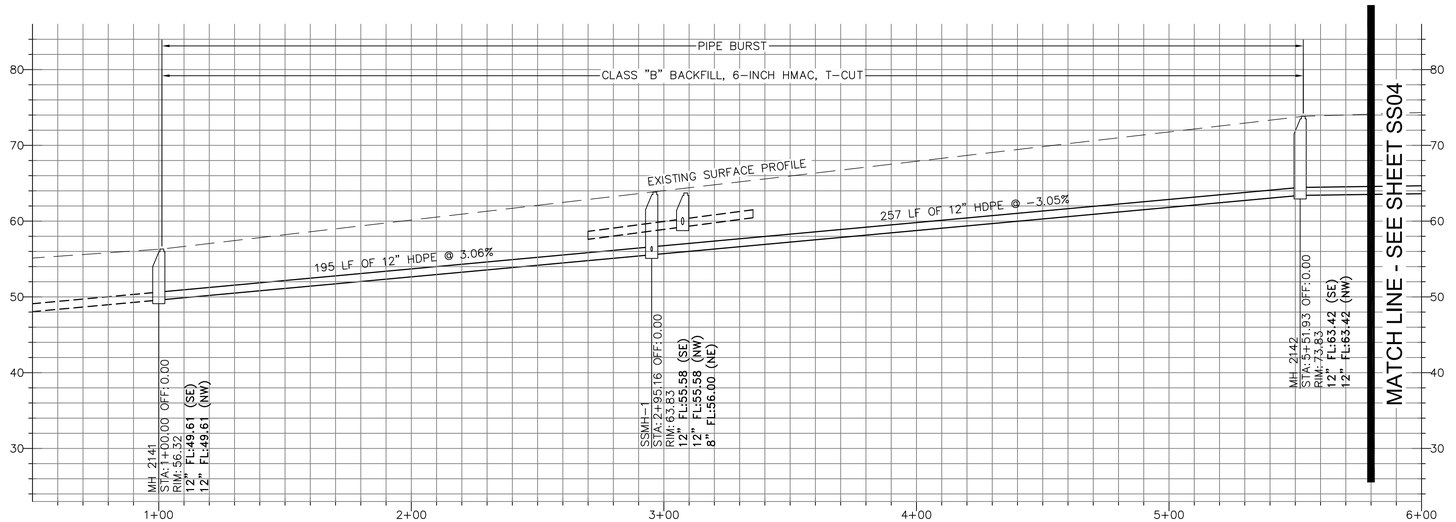
SANITARY SEWER PLAN AND PROFILE - SE 23RD AVENUE

PROJECT NO.:	CONTRACT NO.:	DATE:	SHEET NO.:
2017-X10		11/16/2017	SS02

Z:\Engineering\Capitol Projects (CIP And OMP)\CIP-2017-X10 (Clay Replacement Project)\CADD\Plan Sheets\2017-X10-SS.dwg Apr. 17, 2018 - 5:00 PM sheri markwardt
Plot Date:6/5/2018 11:45 AM sheri markwardt

SE LAKE ROAD SEWER PLAN 1

SCALE : 1" = 30'



SE LAKE ROAD SEWER PROFILE 1

SCALE : 1" = 30' HORZ 1"=5' VERT

SANITARY SEWER CONSTRUCTION NOTES:

- (1A) PIPE BURST EXISTING 8" CLAY PIPE WITH 8" HDPE PIPE.
- (2) PIPE BURST EXISTING 12" CLAY PIPE WITH 12" HDPE PIPE.
- (3) RECONNECT EXISTING SERVICE LATERAL.
- (4) LATERAL SERVICE CURRENTLY CAPPED. DO NOT RECONNECT.
- (5) INSTALL INLET PROTECTION PER RD1010 AND RD 1015.
- (6) INSTALL BIO BAG IN GUTTER ALONG FLOW LINE.
- (8) LATERAL SERVICE ACTIVITY UNKNOWN. CONTRACTOR TO CONFIRM IF LATERAL IS IN-USE AND REPORT TO CITY.
- (9) SERVICE CONNECTION TO BE ELIMINATED. COORDINATE WITH NW HOUSING ALTNERNATIVE.
- (10E) REPLACE SANITARY MANHOLE PER RD338. DO NOT INSTALL OPTIONAL STEPS.
- (12) INSTALL NEW SANITARY MANHOLE OVER EXISTING LINE PER RD338. DO NOT INSTALL OPTIONAL STEPS.
- (21) INSTALL CLEAN OUT PER RD362.
- (22) ABANDON AND FILL WITH CDF SEWER LINE BETWEEN PROPOSED CAP AND CLEAN OUT. SCOPE LINE PRIOR TO ABANDONING FOR ACTIVE LATERALS.

NOTE: SANITARY SEWER SERVICE LATERAL LOCATIONS SHOWN ARE APPROXIMATE ONLY. CONTRACTOR SHALL VERIFY LATERAL LOCATIONS PRIOR TO BURSTING EACH LINE.

NOTE: CONTRACTOR TO CONFIRM STATUS (ACTIVE VS INACTIVE) BEFORE CONNECTING LATERALS.

SCALE
0 30 60 FEET
1 INCH = 30 FEET

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1	11/16/17	SLM	APPROVED BID DRAWINGS

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JEG	11/15/2017	CHECKED
CLE	3/12/2018	APPROVED

REGISTERED PROFESSIONAL ENGINEER
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Sheri Markwardt
OREGON
MAY 22, 2015
SHERI LYNN MARKWARDT
EXPIRES: DECEMBER 31, 2018

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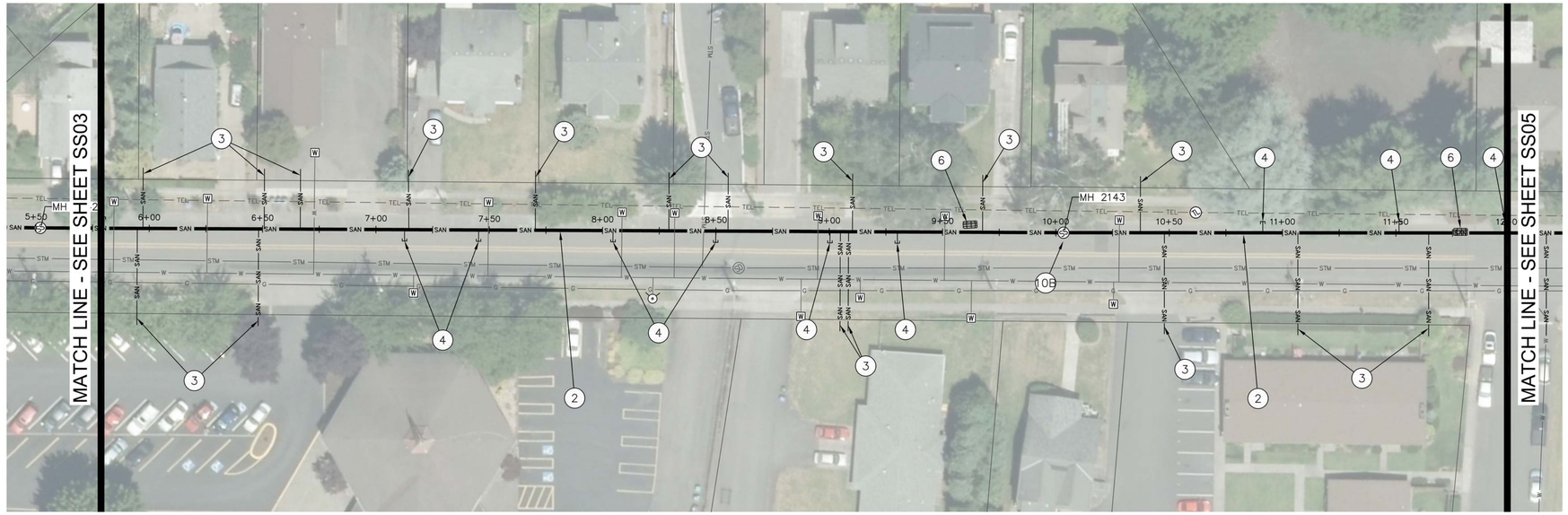
FAX: 503-774-8236

2017 CLAY SEWER PIPE REPLACEMENT

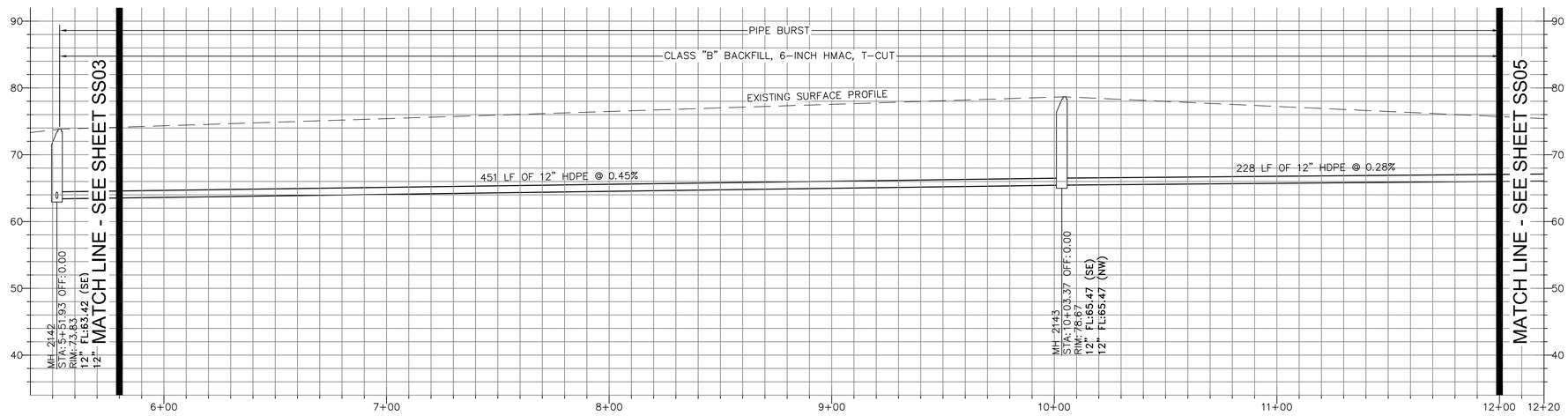
SANITARY SEWER PLAN AND PROFILE - SE LAKE ROAD

PROJECT NO.:	CONTRACT NO.:	DATE:	SHEET NO.:
2017-X10		11/16/2017	SS03



SE LAKE ROAD SEWER PLAN 2

SCALE : 1" = 30'



SE LAKE ROAD SEWER PROFILE 2

SCALE : 1" = 30' HORZ 1"=5' VERT

SANITARY SEWER CONSTRUCTION NOTES:

(2) PIPE BURST EXISTING 12" CLAY PIPE WITH 12" HDPE PIPE.

(3) RECONNECT EXISTING SERVICE LATERAL.

(4) LATERAL SERVICE CURRENTLY CAPPED. DO NOT RECONNECT.

(6) INSTALL BIO BAG IN GUTTER ALONG FLOW LINE.

(10B) REPLACE SANITARY MANHOLE PER RD338. DO NOT INSTALL OPTIONAL STEPS.

NOTE: SANITARY SEWER SERVICE LATERAL LOCATIONS SHOWN ARE APPROXIMATE ONLY. CONTRACTOR SHALL VERIFY LATERAL LOCATIONS PRIOR TO BURSTING EACH LINE.

NOTE: CONTRACTOR TO CONFIRM STATUS (ACTIVE VS INACTIVE) BEFORE CONNECTING LATERALS.

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1 INCH = 30 FEET

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CLE	APPROVED	3/12/2018 DATE

REGISTERED PROFESSIONAL ENGINEER
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OREGON
MAY 22, 2015
SHERI LYNN MARKWARDT
EXPIRES: DECEMBER 31, 2018

CITY OF MILWAUKIE

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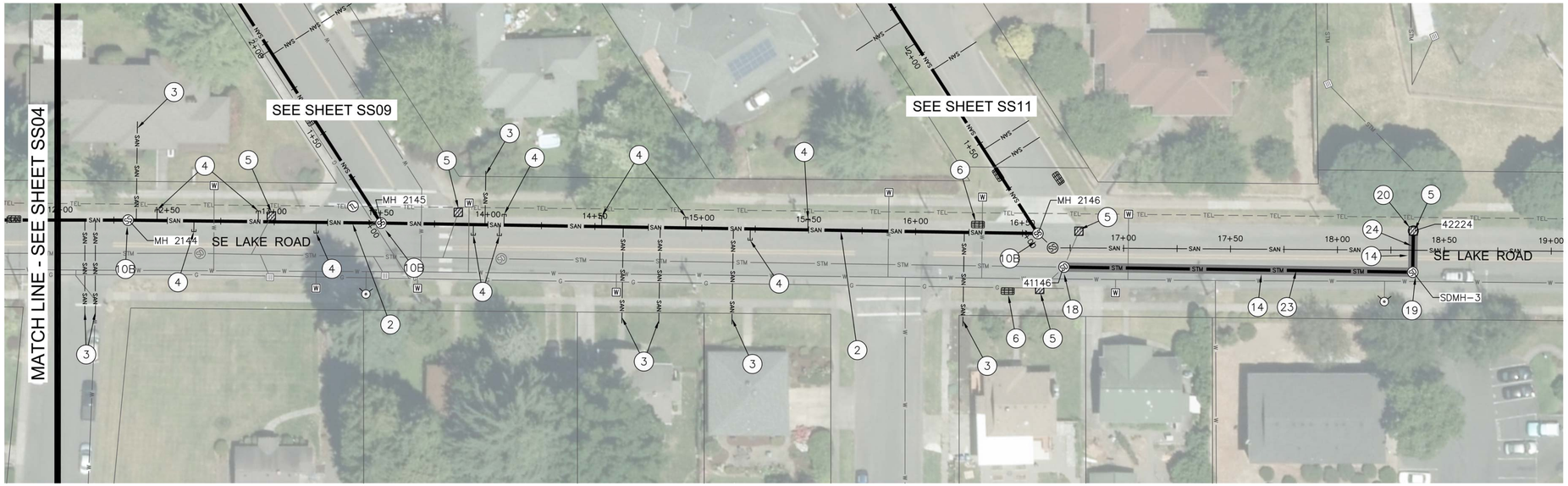
PHONE: 503-786-7600
FAX: 503-774-8236

2017 CLAY SEWER PIPE REPLACEMENT

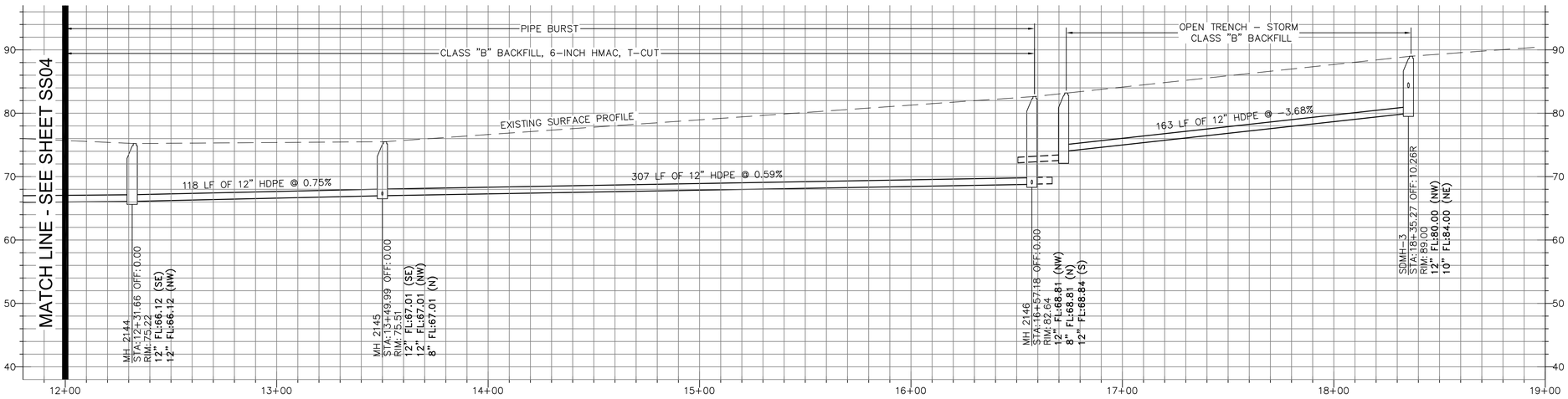
SANITARY SEWER PLAN AND PROFILE - SE LAKE ROAD

PROJECT NO.:	CONTRACT NO.:	DATE:	SHEET NO.:
2017-X10		11/16/2017	SS04



SE LAKE ROAD SEWER PLAN 3

SCALE : 1" = 30'



SE LAKE ROAD SEWER PROFILE 3

SCALE : 1" = 30' HORZ 1"=5' VERT

SANITARY SEWER CONSTRUCTION NOTES:

(2) PIPE BURST EXISTING 12" CLAY PIPE WITH 12" HDPE PIPE.

(3) RECONNECT EXISTING SERVICE LATERAL.

(4) LATERAL SERVICE CURRENTLY CAPPED. DO NOT RECONNECT.

(5) INSTALL INLET PROTECTION PER RD1010 AND RD 1015.

(6) INSTALL BIO BAG IN GUTTER ALONG FLOW LINE.

(10E) REPLACE SANITARY MANHOLE PER RD338. DO NOT INSTALL OPTIONAL STEPS.

(14) TRENCH BACKFILL PER RD300 AND STREET CUT AND RESURFACING PER RD302.

(18) REPLACE STORM MANHOLE PER RD335. DO NOT INSTALL OPTIONAL STEPS.

(19) INSTALL NEW STORM MANHOLE PER RD335. DO NOT INSTALL OPTIONAL STEPS.

(20) INSTALL G-2 CATCH BASIN PER RD364 AND RD365 .

(23) OPEN TRENCH 12" HDPE STORM MAIN.

(24) OPEN TRENCH 10" HDPE STORM LATERAL.

NOTE: SANITARY SEWER SERVICE LATERAL LOCATIONS SHOWN ARE APPROXIMATE ONLY. CONTRACTOR SHALL VERIFY LATERAL LOCATIONS PRIOR TO BURSTING EACH LINE.

NOTE: CONTRACTOR TO CONFIRM STATUS (ACTIVE VS INACTIVE) BEFORE CONNECTING LATERALS.

SCALE
0 30 60 FEET
1 INCH = 30 FEET

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CLE	3/12/2018	APPROVED

REGISTERED PROFESSIONAL ENGINEER
84366PE
OREGON
MAY 22, 2015
SHERI LYNN MARKWARDT
EXPIRES: DECEMBER 31, 2018

CITY OF MILWAUKIE
6101 SE JOHNSON CREEK BLVD.
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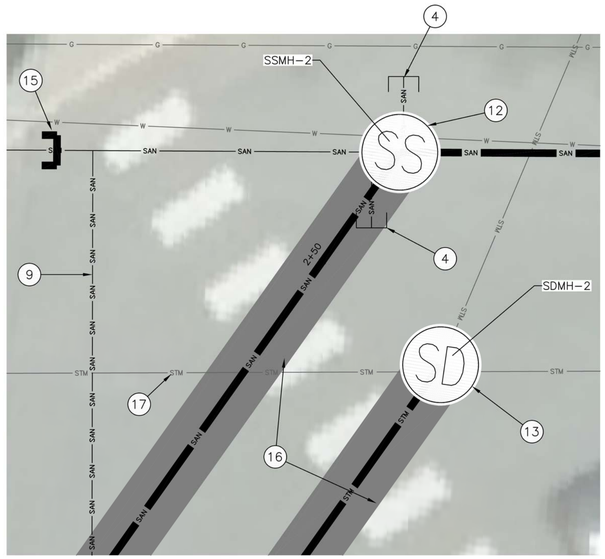
PHONE: 503-786-7600
FAX: 503-774-8236

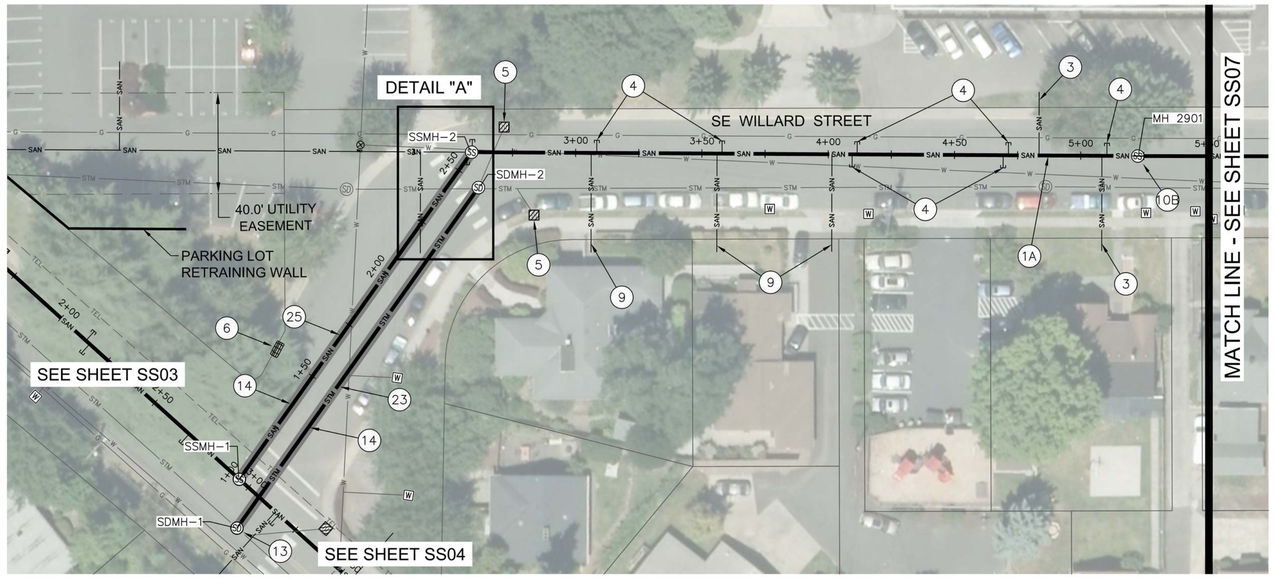
2017 CLAY SEWER PIPE REPLACEMENT

SANITARY SEWER PLAN AND PROFILE - SE LAKE ROAD

PROJECT NO.:	CONTRACT NO.:	DATE:	SHEET NO.:
2017-X10		11/16/2017	SS05

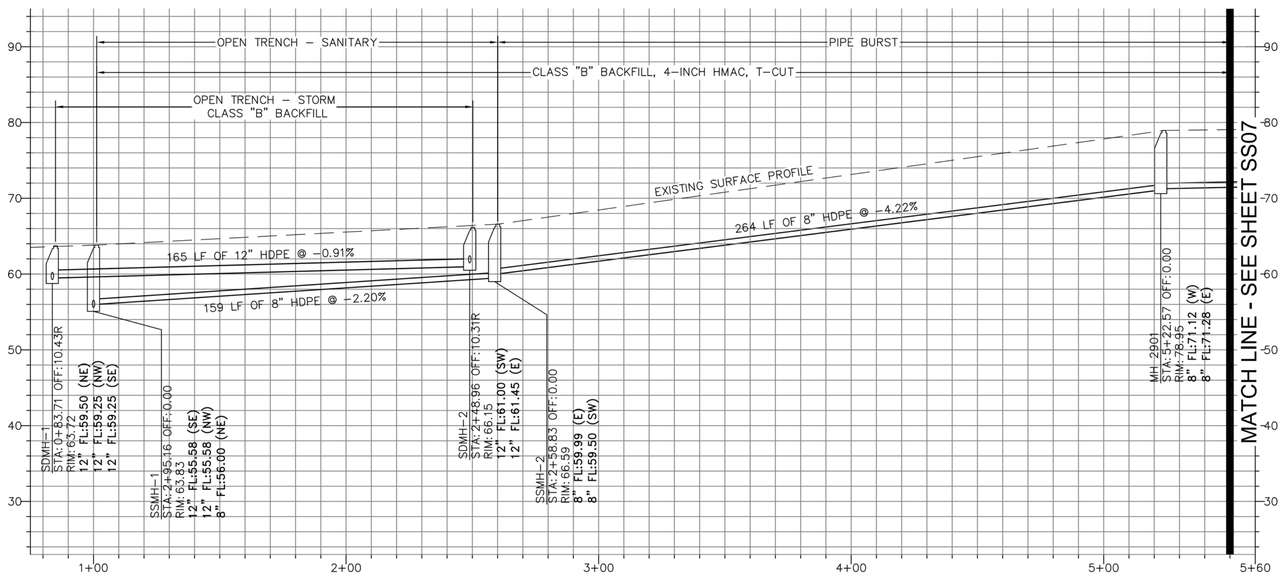


DETAIL "A"
SCALE : 1" = 10'



SE WILLARD STREET SEWER PLAN 1
SCALE : 1" = 30'

SCALE
0 30 60 FEET
1 INCH = 30 FEET



SE WILLARD STREET SEWER PROFILE 1
SCALE : 1" = 30' HORZ 1"=5' VERT

SANITARY SEWER CONSTRUCTION NOTES:

1A PIPE BURST EXISTING 8" CLAY PIPE WITH 8" HDPE PIPE.
3 RECONNECT EXISTING SERVICE LATERAL.
4 LATERAL SERVICE CURRENTLY CAPPED. DO NOT RECONNECT.
5 INSTALL INLET PROTECTION PER RD1010 AND RD 1015.
9 SERVICE CONNECTION TO BE ELIMINATED. COORDINATE WITH NW HOUSING ALTNERNATIVE.
10B REPLACE SANITARY MANHOLE PER RD338. DO NOT INSTALL OPTIONAL STEPS.
12 INSTALL NEW SANITARY MANHOLE OVER EXISTING LINE PER RD338. DO NOT INSTALL OPTIONAL STEPS.
13 INSTALL NEW STORM MANHOLE OVER EXISTING LINE PER RD335. DO NOT INSTALL OPTIONAL STEPS.
14 TRENCH BACKFILL PER RD300 AND STREET CUT AND RESURFACING PER RD302.
15 REMOVE EXISTING SANITARY LINE BETWEEN PROPOSED MANHOLE AND CAP.
16 REPAIR CROSS WALK STRIPING AS NEEDED.
17 REMOVE STORM PIPE BETWEEN PROPOSED MANHOLE AND EXISTING MANHOLE. REPAIR EXISTING MANHOLE AS NEEDED.
23 OPEN TRENCH 12" HDPE STORM MAIN.
24 OPEN TRENCH 10" HDPE STORM LATERAL.
25 OPEN TRENCH 8" HDPE SEWER MAIN.

NOTE: SANITARY SEWER SERVICE LATERAL LOCATIONS SHOWN ARE APPROXIMATE ONLY. CONTRACTOR SHALL VERIFY LATERAL LOCATIONS PRIOR TO BURSTING EACH LINE.

NOTE: CONTRACTOR TO CONFIRM STATUS (ACTIVE VS INACTIVE) BEFORE CONNECTING LATERALS.

NOTE: CONTRACTOR TO COORDINATE CONSTRUCTION ACTIVITIES WITH HIGH SCHOOL. EASEMENT FOR INSTALLATION AND MAINTENANCE OF PUBLIC UTILITIES ALONG VACATED PORTION OF WILLARD STREET IN CITY OF MILWAUKIE ORDINANCE 1609.

NO.	DATE	BY	REVISIONS
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SLM	7/30/2017	DESIGNED
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REGISTERED PROFFESSIONAL ENGINEER
84366PE
OREGON
SHERI LYNN MARKWARDT
MAY 22, 2015
EXPIRES: DECEMBER 31, 2018

CITY OF MILWAUKIE

6101 SE JOHNSON CREEK BLVD.
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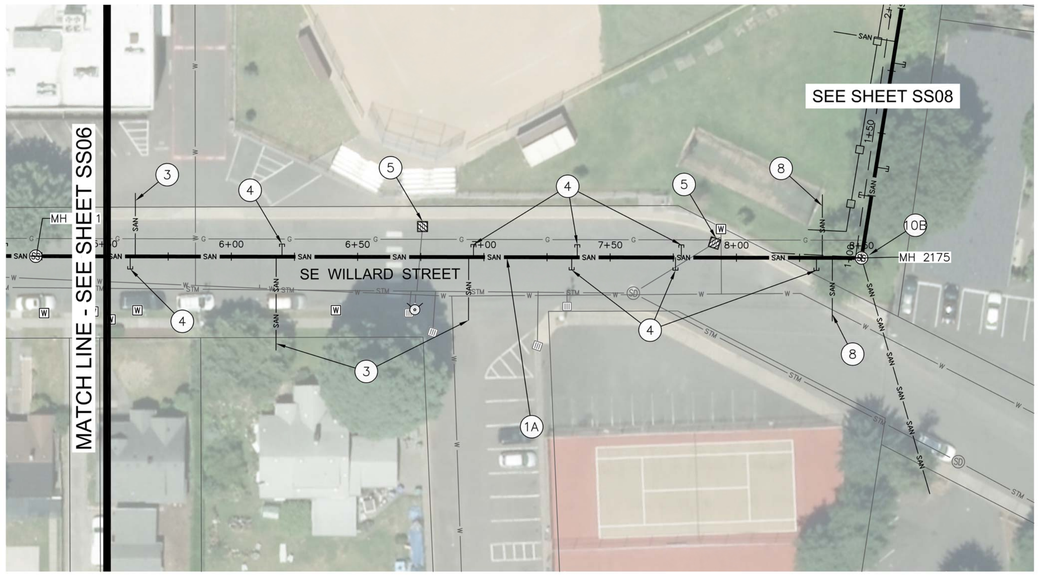
PHONE: 503-786-7600
FAX: 503-774-8236

2017 CLAY SEWER PIPE REPLACEMENT

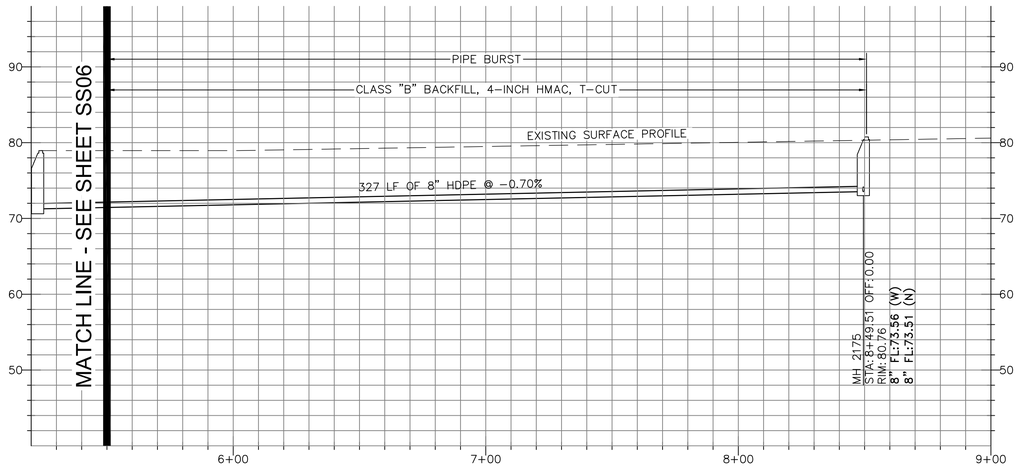
SANITARY SEWER PLAN AND PROFILE - SE WILLARD STREET

PROJECT NO.:	CONTRACT NO.:	DATE:	SHEET NO.:
2017-X10		11/16/2017	SS06

Z:\Engineering\Capital Projects (CIP And CMP)\CIP-2017-X10 (Clay Replacement Project)\CADD\Plan Sheets\2017-X10-SS.dwg Apr. 17, 2018 - 5:00 PM sheri markwardt
Plot Date:6/5/2018 11:55 AM sheri markwardt



SE WILLARD STREET SEWER PLAN 2
SCALE : 1" = 30'



SE WILLARD STREET SEWER PROFILE 2
SCALE : 1" = 30' HORZ 1"=5' VERT

SANITARY SEWER CONSTRUCTION NOTES:

1A PIPE BURST EXISTING 8" CLAY PIPE WITH 8" HDPE PIPE.

3 RECONNECT EXISTING SERVICE LATERAL.

4 LATERAL SERVICE CURRENTLY CAPPED. DO NOT RECONNECT.

5 INSTALL INLET PROTECTION PER RD1010 AND RD 1015.

8 LATERAL SERVICE ACTIVITY UNKNOWN. CONTRACTOR TO CONFIRM IF LATERAL IS IN-USE.

10B REPLACE SANITARY MANHOLE PER RD338. DO NOT INSTALL OPTIONAL STEPS.

NOTE: SANITARY SEWER SERVICE LATERAL LOCATIONS SHOWN ARE APPROXIMATE ONLY. CONTRACTOR SHALL VERIFY LATERAL LOCATIONS PRIOR TO BURSTING EACH LINE.

NOTE: CONTRACTOR TO CONFIRM STATUS (ACTIVE VS INACTIVE) BEFORE CONNECTING LATERALS.

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1 INCH = 30 FEET

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REGISTERED PROFESSIONAL ENGINEER
84366PE
OREGON
MAY 22, 2015
SHERI LYNN MARKWARDT
EXPIRES: DECEMBER 31, 2018

CITY OF MILWAUKIE
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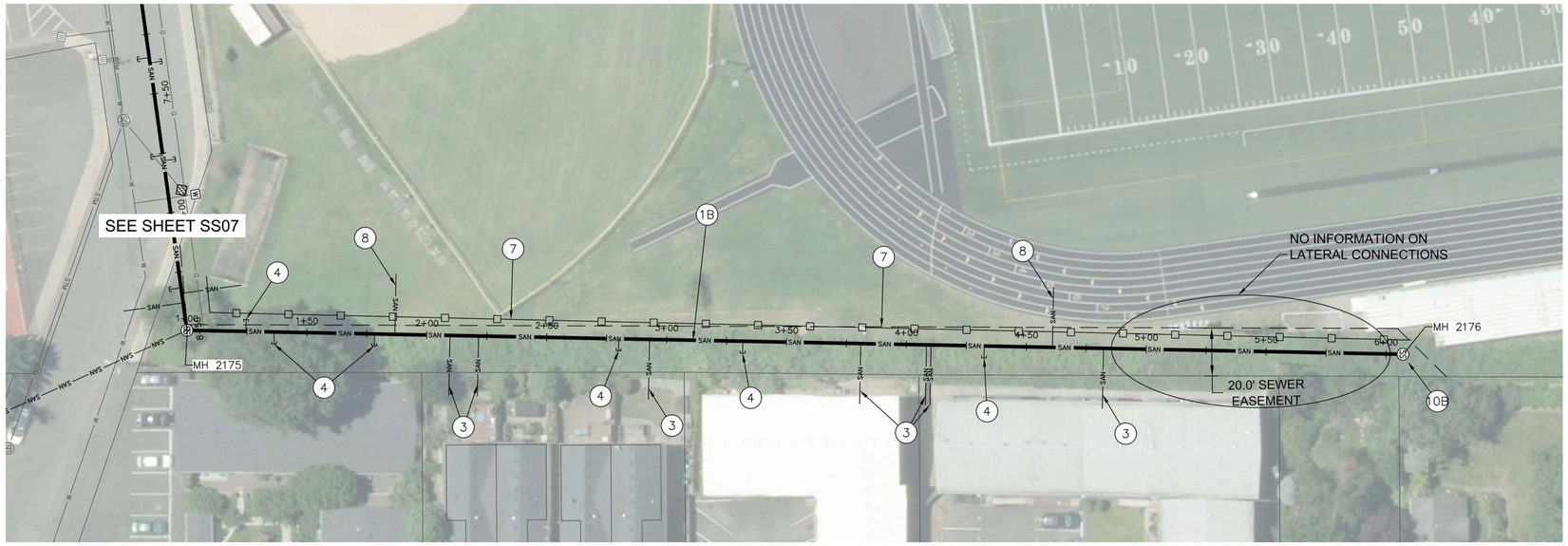
FAX: 503-774-8236

2017 CLAY SEWER PIPE REPLACEMENT

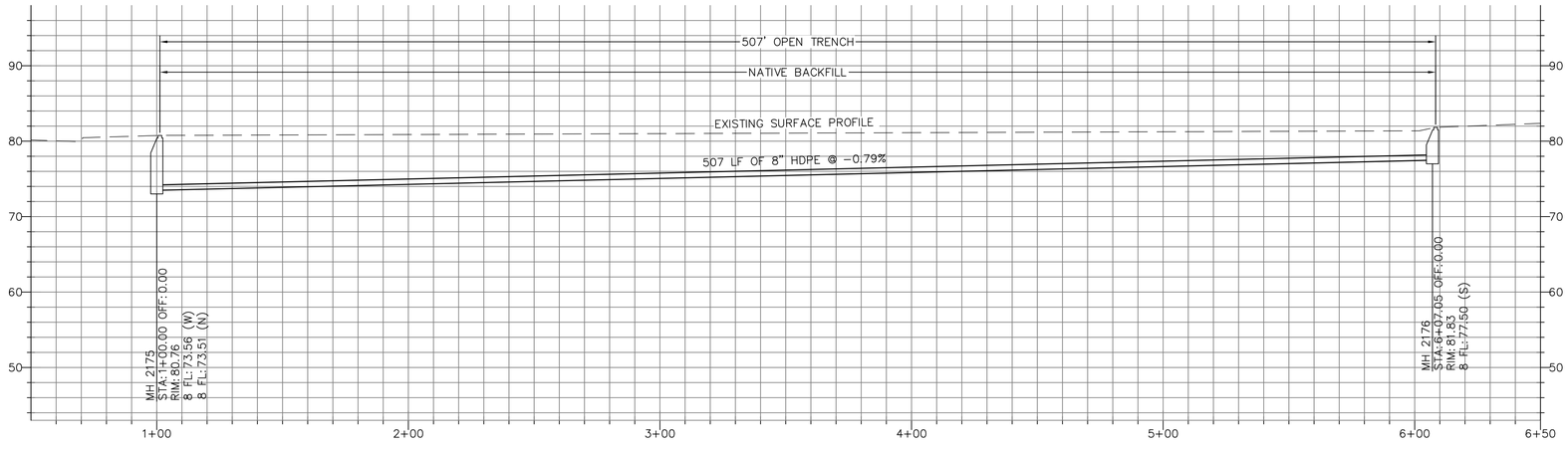
SANITARY SEWER PLAN AND PROFILE - SE WILLARD STREET

PROJECT NO.:	CONTRACT NO.:	DATE:	SHEET NO.:
2017-X10		11/16/2017	SS07



MILWAUKIE HIGH SCHOOL FIELD SEWER PLAN

SCALE : 1" = 30'



MILWAUKIE HIGH SCHOOL FIELD SEWER PROFILE

SCALE : 1" = 30' HORZ 1"=5' VERT

SANITARY SEWER CONSTRUCTION NOTES:

(1B) OPEN TRENCH EXISTING 8" CLAY PIPE WITH 8" HDPE PIPE.

(3) RECONNECT EXISTING SERVICE LATERAL.

(4) LATERAL SERVICE CURRENTLY CAPPED. DO NOT RECONNECT.

(7) INSTALL SILT FENCE PER RD1040 WEST OF SEWER TRENCH.

(8) LATERAL SERVICE ACTIVITY UNKNOWN. CONTRACTOR TO CONFIRM IF LATERAL IS IN-USE.

(10B) REPLACE SANITARY MANHOLE PER RD338. DO NOT INSTALL OPTIONAL STEPS.

NOTE: SANITARY SEWER SERVICE LATERAL LOCATIONS SHOWN ARE APPROXIMATE ONLY. CONTRACTOR SHALL VERIFY LATERAL LOCATIONS PRIOR TO BURSTING EACH LINE.

NOTE: CONTRACTOR TO CONFIRM STATUS (ACTIVE VS INACTIVE) BEFORE CONNECTING LATERALS.

NOTE: CONTRACTOR TO COORDINATE CONSTRUCTION ACTIVITIES WITH HIGH SCHOOL. 20 FOOT PUBLIC SANITARY SEWER EASEMENT RECORDED AS CLACKAMAS COUNTY DOCUMENT 2009-005577.

SEWER PIPE AND MH 2176 TO BE CONSTRUCTED BY OTHERS AT A LATER TIME. MH 2175 TO BE REPLACED UNDER CURRENT CONTRACT.

SCALE

0 30 60

FEET

1 INCH = 30 FEET

NO.	DATE	BY	REVISIONS
2	3/12/18	SLM	UPDATE DETAILS
1	11/16/17	SLM	APPROVED BID DRAWINGS

SLM	7/30/2017	DESIGNED
SLM	9/15/2017	DRAFTED
JEG	11/15/2017	CHECKED
CLE	3/12/2018	APPROVED

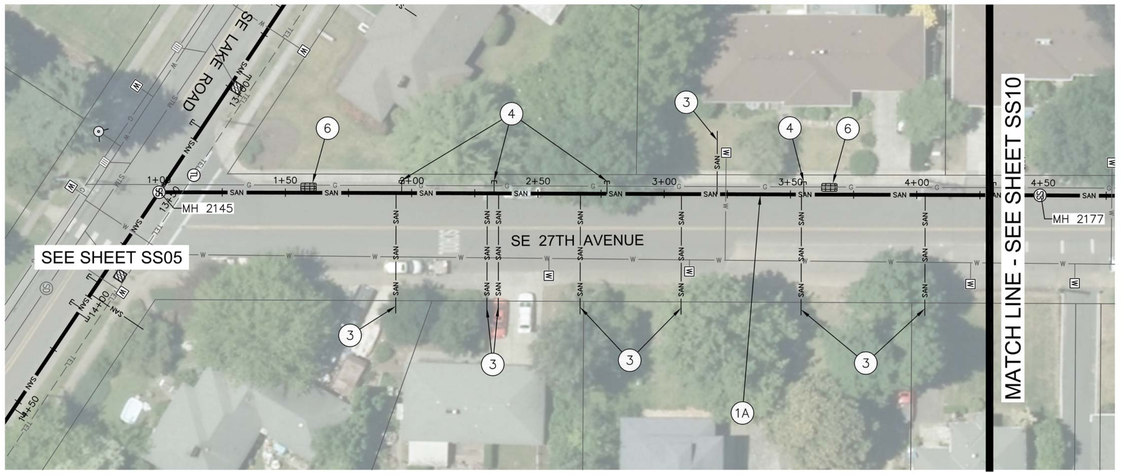
REGISTERED PROFESSIONAL ENGINEER
84366PE
OREGON
MAY 22, 2015
SHERI LYNN MARKWARDT
EXPIRES: DECEMBER 31, 2018

CITY OF MILWAUKIE
6101 SE JOHNSON CREEK BLVD.
MILWAUKIE, OR 97206
PHONE: 503-786-7600
FAX: 503-774-8236

2017 CLAY SEWER PIPE REPLACEMENT

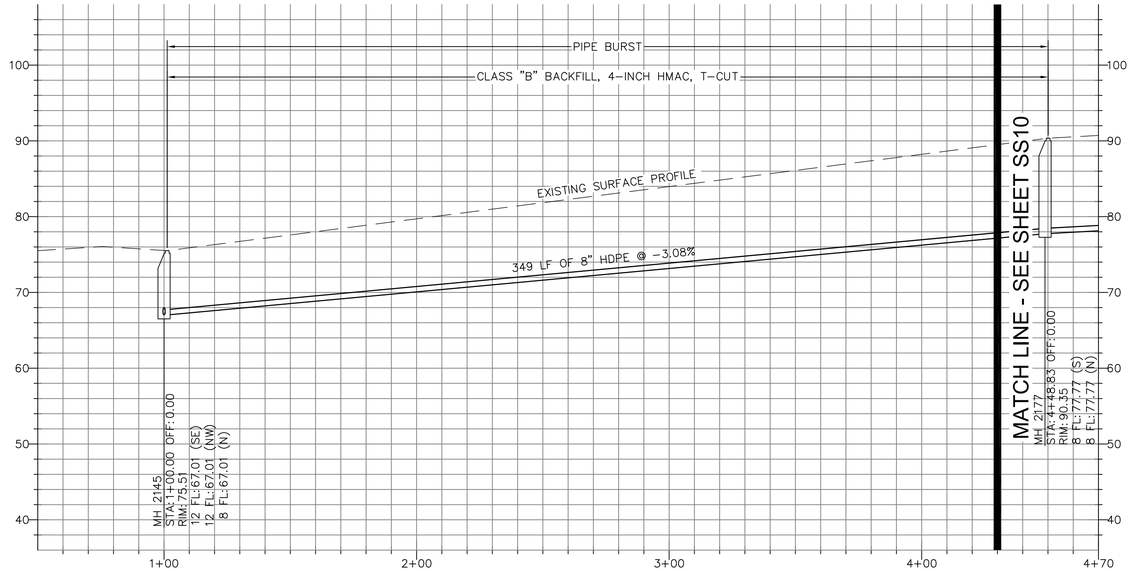
SANITARY SEWER PLAN AND PROFILE - MILWAUKIE H.S. FIELD

PROJECT NO.:	CONTRACT NO.:	DATE:	SHEET NO.:
2017-X10		11/16/2017	SS08



SE 27TH STREET SEWER PLAN 1

SCALE : 1" = 30'



SE 27TH STREET SEWER PROFILE 1

SCALE : 1" = 30' HORZ 1"=5' VERT

SANITARY SEWER CONSTRUCTION NOTES:

- (1A) PIPE BURST EXISTING 8" CLAY PIPE WITH 8" HDPE PIPE.
- (3) RECONNECT EXISTING SERVICE LATERAL.
- (4) LATERAL SERVICE CURRENTLY CAPPED. DO NOT RECONNECT.
- (6) INSTALL BIO BAG IN GUTTER ALONG FLOW LINE.

NOTE: SANITARY SEWER SERVICE LATERAL LOCATIONS SHOWN ARE APPROXIMATE ONLY. CONTRACTOR SHALL VERIFY LATERAL LOCATIONS PRIOR TO BURSTING EACH LINE.

NOTE: CONTRACTOR TO CONFIRM STATUS (ACTIVE VS INACTIVE) BEFORE CONNECTING LATERALS.

SCALE
0 30 60 FEET
1 INCH = 30 FEET

NO.	DATE	BY	REVISIONS
2	3/12/18	SLM	UPDATE DETAILS
1	11/16/17	SLM	APPROVED BID DRAWINGS

SLM	7/30/2017	DESIGNED
SLM	9/15/2017	DRAFTED
JEG	11/15/2017	CHECKED
CLE	3/12/2018	APPROVED

REGISTERED PROFESSIONAL ENGINEER
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MAY 22, 2015
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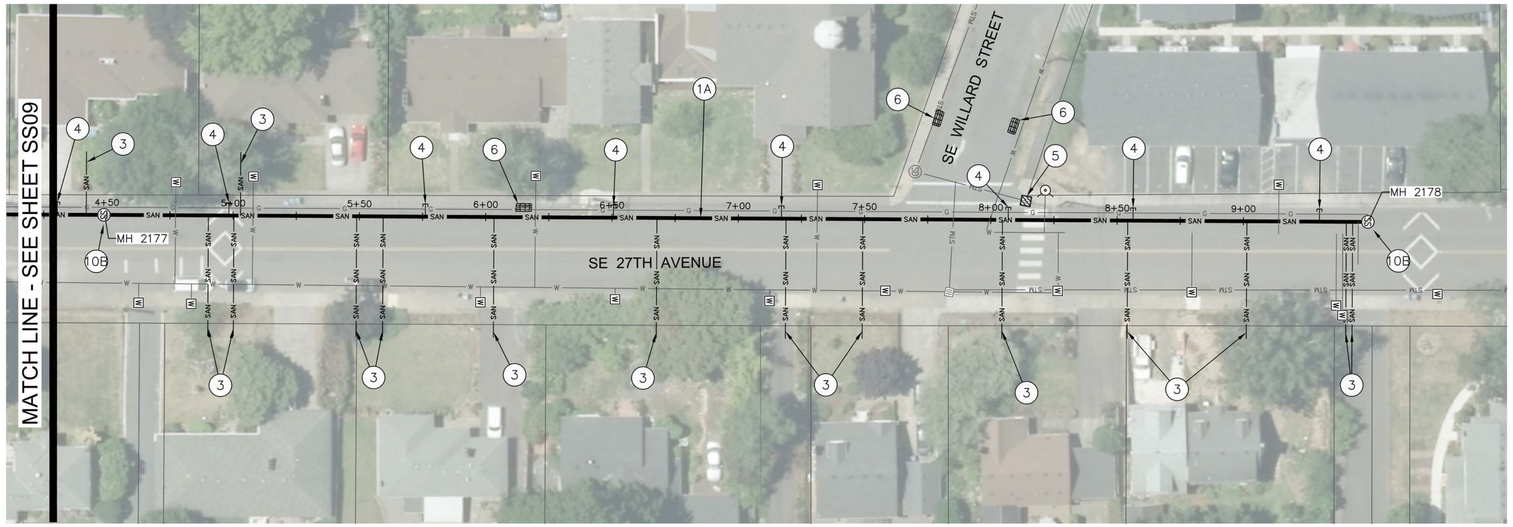
2017 CLAY SEWER PIPE REPLACEMENT

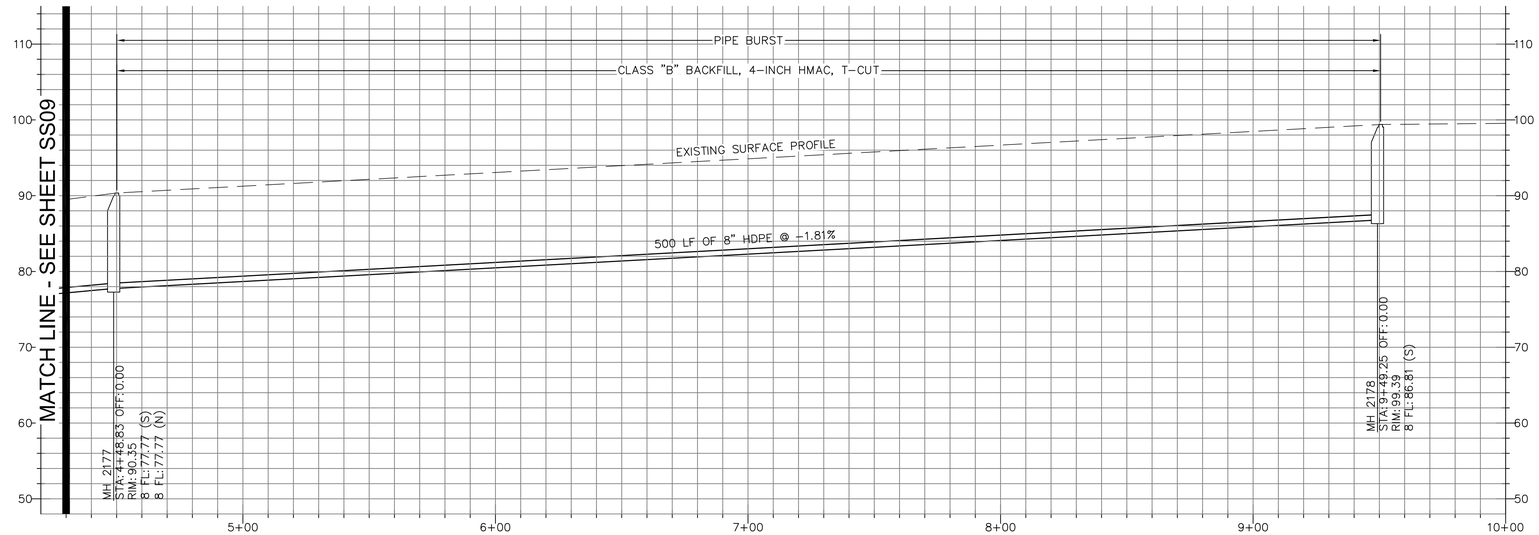
SANITARY SEWER PLAN AND PROFILE - SE 27TH AVENUE

PROJECT NO.:	CONTRACT NO.:	DATE:	SHEET NO.:
2017-X10		11/16/2017	SS09



SE 27TH STREET SEWER PLAN 2

SCALE : 1" = 30'



SE 27TH STREET SEWER PROFILE 2

SCALE : 1" = 30' HORZ 1"=5' VERT

SANITARY SEWER CONSTRUCTION NOTES:

- (1A) PIPE BURST EXISTING 8" CLAY PIPE WITH 8" HDPE PIPE.
- (3) RECONNECT EXISTING SERVICE LATERAL.
- (4) LATERAL SERVICE CURRENTLY CAPPED. DO NOT RECONNECT.
- (5) INSTALL INLET PROTECTION PER RD1010 AND RD 1015.
- (6) INSTALL BIO BAG IN GUTTER ALONG FLOW LINE.
- (10E) REPLACE SANITARY MANHOLE PER RD338. INSTALL SQUARE CUT MANHOLE FRAME ADJUSTMENT PER RD360.

NOTE: SANITARY SEWER SERVICE LATERAL LOCATIONS SHOWN ARE APPROXIMATE ONLY. CONTRACTOR SHALL VERIFY LATERAL LOCATIONS PRIOR TO BURSTING EACH LINE.

NOTE: CONTRACTOR TO CONFIRM STATUS (ACTIVE VS INACTIVE) BEFORE CONNECTING LATERALS.

SCALE
0 30 60 FEET
1 INCH = 30 FEET

NO.	DATE	BY	REVISIONS
2	3/12/18	SLM	UPDATE DETAILS
1	11/16/17	SLM	APPROVED BID DRAWINGS

SLM	7/30/2017	DESIGNED
SLM	9/15/2017	DRAFTED
JEG	11/15/2017	CHECKED
CLE	3/12/2018	APPROVED

REGISTERED PROFESSIONAL ENGINEER
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Sheri Markwardt
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MAY 22, 2015
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EXPIRES: DECEMBER 31, 2018

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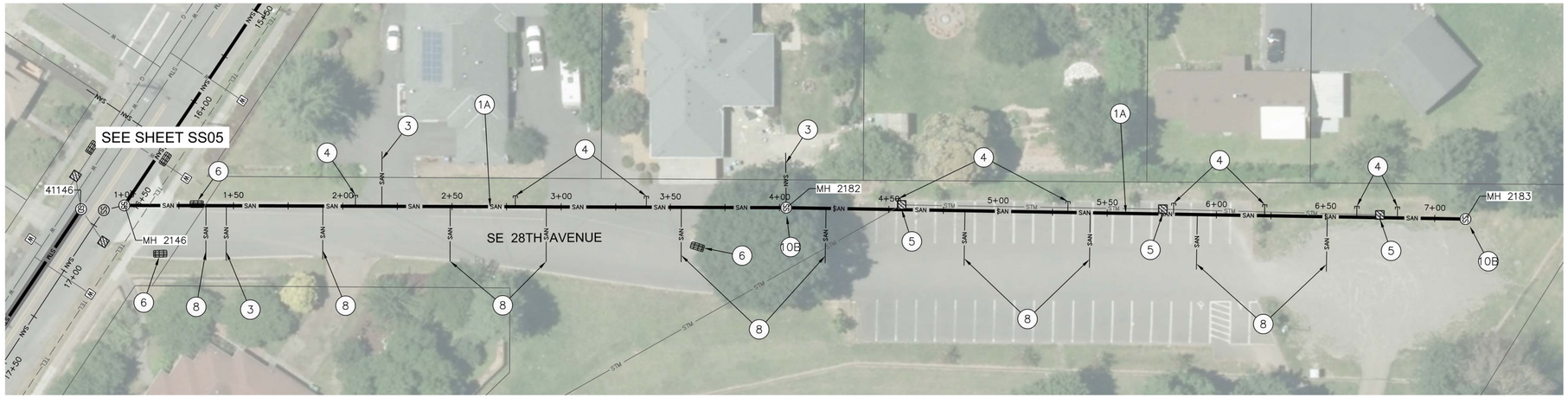
PHONE: 503-786-7600
FAX: 503-774-8236

2017 CLAY SEWER PIPE REPLACEMENT

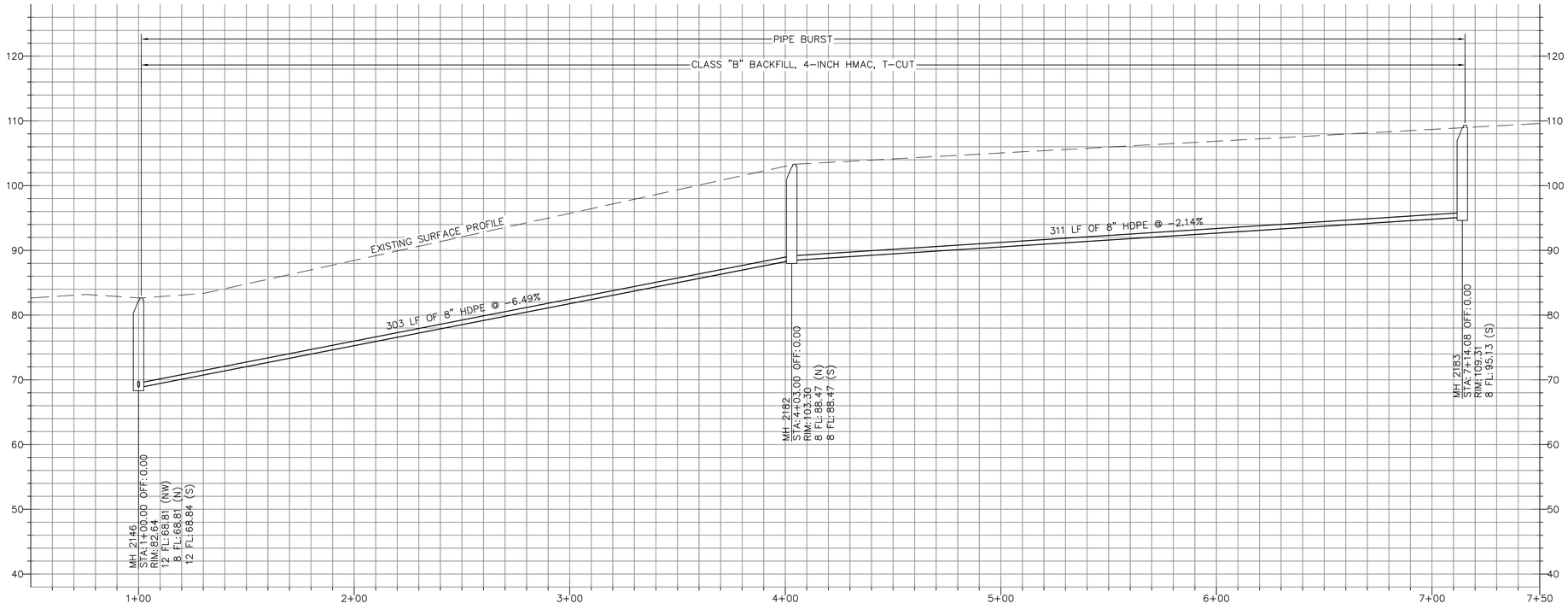
SANITARY SEWER PLAN AND PROFILE - SE 27TH AVENUE

PROJECT NO.:	CONTRACT NO.:	DATE:	SHEET NO.:
2017-X10		11/16/2017	SS10



SE 28TH STREET SEWER PLAN

SCALE : 1" = 30'



SE 28TH STREET SEWER PROFILE

SCALE : 1" = 30' HORZ 1"=5' VERT

SANITARY SEWER CONSTRUCTION NOTES:

- (1A) PIPE BURST EXISTING 8" CLAY PIPE WITH 8" HDPE PIPE.
- (3) RECONNECT EXISTING SERVICE LATERAL.
- (4) LATERAL SERVICE CURRENTLY CAPPED. DO NOT RECONNECT.
- (5) INSTALL INLET PROTECTION PER RD1010 AND RD 1015.
- (6) INSTALL BIO BAG IN GUTTER ALONG FLOW LINE.
- (8) LATERAL SERVICE ACTIVITY UNKNOWN. CONTRACTOR TO CONFIRM IF LATERAL IS IN-USE.
- (10E) REPLACE SANITARY MANHOLE PER RD338. INSTALL SQUARE CUT MANHOLE FRAME ADJUSTMENT PER RD360.

NOTE: SANITARY SEWER SERVICE LATERAL LOCATIONS SHOWN ARE APPROXIMATE ONLY. CONTRACTOR SHALL VERIFY LATERAL LOCATIONS PRIOR TO BURSTING EACH LINE.

NOTE: CONTRACTOR TO CONFIRM STATUS (ACTIVE VS INACTIVE) BEFORE CONNECTING LATERALS.

SCALE
0 30 60
FEET
1 INCH = 30 FEET

NO.	DATE	BY	REVISIONS
2	3/12/18	SLM	UPDATE DETAILS
1	11/16/17	SLM	APPROVED BID DRAWINGS

SLM	7/30/2017	DESIGNED
SLM	9/15/2017	DRAFTED
JEG	11/15/2017	CHECKED
CLE	3/12/2018	APPROVED

REGISTERED PROFESSIONAL ENGINEER
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OREGON
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SHERI LYNN MARKWARDT
EXPIRES: DECEMBER 31, 2018

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2017 CLAY SEWER PIPE REPLACEMENT

SANITARY SEWER PLAN AND PROFILE - SE 28TH AVENUE

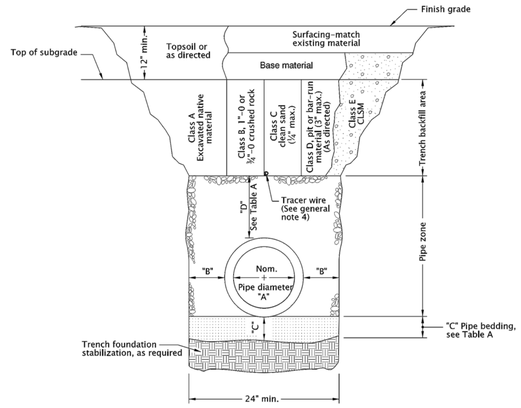
PROJECT NO.:	CONTRACT NO.:	DATE:	SHEET NO.:
2017-X10		11/16/2017	SS11

rd300.dgn 25-JUL-2017

TABLE A

"A" (in)	"B" (in)	"C" (in)	"D" (in)
4	10	4	8
6	10	4	8
8	10	6	10
10	10	6	10
12	12	6	10
15	12	6	10
18	16	6	12
21	16	6	12
24	18	6	12
30	18	6	12
36	24	6	14
42	24	6	14
48	24	6	14
54	24	6	14
60	24	6	14
66	24	6	14
72	24	6	14

For pipes over 72" diameter, see general note 3.



MULTIPLE INSTALLATIONS

DIAMETER	MIN. SPACE BETWEEN PIPES
Up to 48"	24"
48" to 72"	One half (½) dia. of pipe

GENERAL NOTES FOR ALL DETAILS:

1. Surfacing of paved areas shall comply with street cut Std. Dwg. RD302.
2. For pipe installation in embankment areas where the trench method will not be used and the pipe is ≥ 36" diameter, increase dimension "B" to nominal pipe diameter.
3. Pipes over 72" diameter are structures, and are not applicable to this drawing.
4. See Std. Dwg. RD336 for tracer wire details (When required).

CALC. BOOK NO. N/A | BASELINE REPORT DATE 14-JUL-2014

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

OREGON STANDARD DRAWINGS

TRENCH BACKFILL, BEDDING, PIPE ZONE AND MULTIPLE INSTALLATIONS

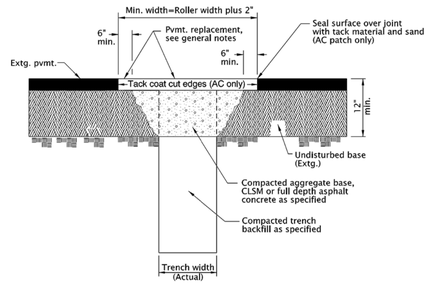
2018

DATE	REVISION DESCRIPTION

RD300

Effective Date: December 1, 2017 - May 31, 2018 **RD300**

rd302.dgn 25-JUL-2017



GENERAL NOTES FOR ALL DETAILS:

1. All existing AC or PCC pavement shall be sawcut prior to repaving.
2. Concrete pavement shall be replaced with concrete to a minimum thickness of 6" or to the thickness of removed pavement, whichever is greater.
3. Place AC mix minimum thkn. of 4" or the thkn. of the removed pavement, whichever is greater. Compact as specified.

CALC. BOOK NO. N/A | BASELINE REPORT DATE 12-JUN-2008

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

OREGON STANDARD DRAWINGS

STREET CUT

2018

DATE	REVISION DESCRIPTION

RD302

Effective Date: December 1, 2017 - May 31, 2018 **RD302**

Z:\Engineering\Capital Projects (CIP And CMP)\CIP-2017-X10 (Clay Replacement Project)\CADD\Plan Sheets\2017-X10-DT.dwg Apr. 17, 2018 - 5:27 PM sheri markwardt
Plot Date: 6/5/2018 12:11 PM sheri markwardt

NO.	DATE	BY	REVISIONS
2	3/12/18	SLM	UPDATE DETAILS
1	11/16/17	SLM	APPROVED BID DRAWINGS

DESIGNED	SLM	7/30/2017
DRAFTED	SLM	9/15/2017
CHECKED	JEG	11/15/2017
APPROVED	CLE	3/12/2018

REGISTERED PROFFESSIONAL ENGINEER 84366PE OREGON MAY 22, 2015 SHERI LYNN MARKWARDT
EXPIRES: DECEMBER 31, 2018

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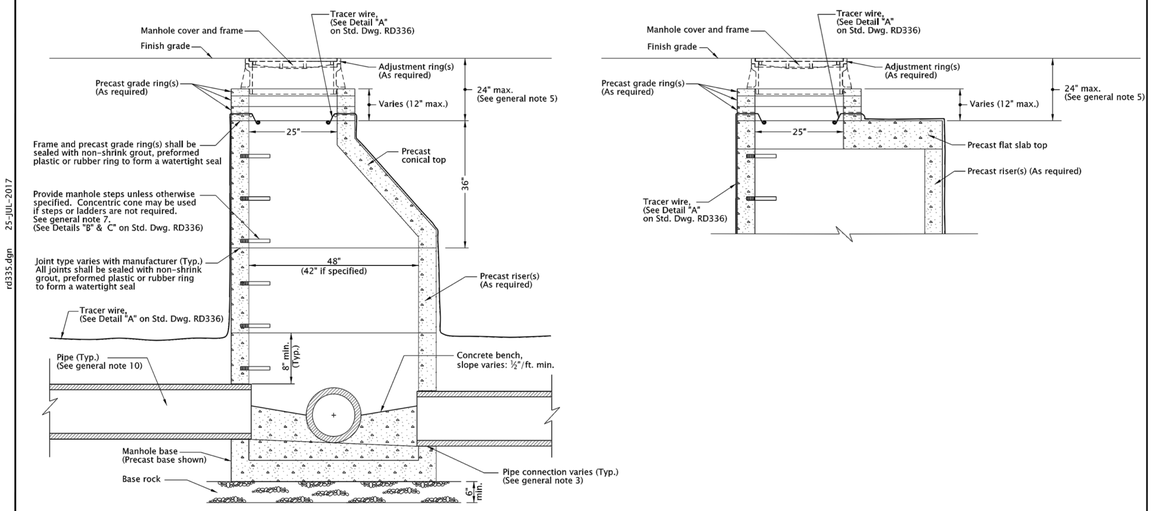
2017 CLAY SEWER PIPE REPLACEMENT

CONSTRUCTION DETAILS

PROJECT NO.:	CONTRACT NO.:	DATE:	SHEET NO.:
2017-X10		11/16/2017	DT01



RD335

GENERAL NOTES FOR ALL DETAILS:

1. All precast products shall conform to requirements of ASTM C478.
2. Standard precast manhole section diameter shall be 48". Use 42" if specified by the Engineer.
3. See Std. Dwg. RD345 for pipe to manhole connections.
4. See Std. Dwg. RD344 for manhole base section.
5. Adjust 24" maximum.
6. All connecting pipes shall have a tracer wire, or approved alternate.
7. See Std. Dwg. RD336 for manhole steps.
8. See Std. Dwg. RD336 for details not shown.
9. See Std. Dwg. RD356 for manhole covers and frames, manhole adjustment rings, etc.
10. Max. pipe diameter varies with pipe material.
11. See Std. Dwg. RD342 for shallow manholes.
12. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.

CALC. BOOK NO. N/A

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

BASELINE REPORT DATE 25-JUL-2017

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

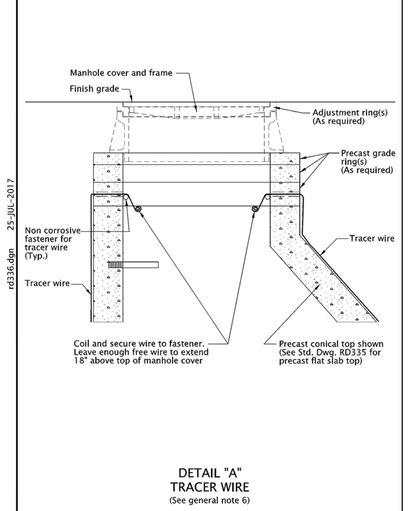
OREGON STANDARD DRAWINGS

STANDARD STORM SEWER MANHOLE

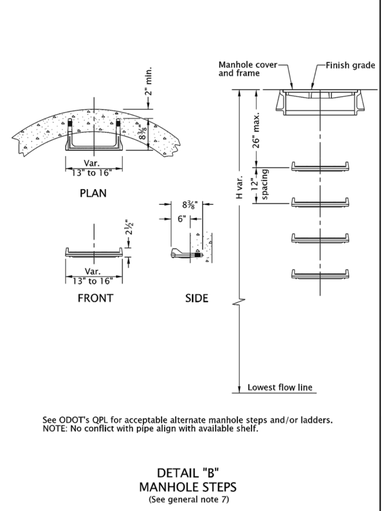
2018

DATE	REVISION DESCRIPTION

Effective Date: December 1, 2017 - May 31, 2018 **RD335**

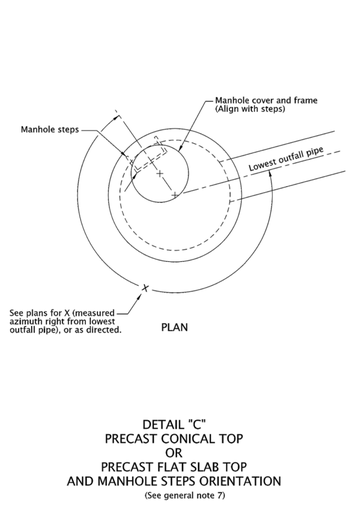


DETAIL "A"
TRACER WIRE
(See general note 6)



See ODOT's QPL for acceptable alternate manhole steps and/or ladders.
NOTE: No conflict with pipe align with available shelf.

DETAIL "B"
MANHOLE STEPS
(See general note 7)



DETAIL "C"
PRECAST CONICAL TOP
OR
PRECAST FLAT SLAB TOP
AND MANHOLE STEPS ORIENTATION
(See general note 7)

RD336

GENERAL NOTES FOR ALL DETAILS:

1. All precast products shall conform to requirements of ASTM C478.
2. Standard precast manhole section diameter shall be 48". Use 42" if specified by the Engineer.
3. See Std. Dwg. RD345 for pipe to manhole connections.
4. See Std. Dwg. RD344 for manhole base section.
5. Adjust 24" maximum.
6. All connecting pipes shall have a tracer wire, or approved alternate. Place tracer wire directly over pipe centerline and on top of the pipe zone material.
7. Steps and ladders shall conform to requirements of ASTM C478. When H=42" or less omit steps. See Detail "C" for alignment of steps, and manhole cover and frame.
8. See Std. Dwg. RD335 for details not shown.
9. See Std. Dwg. RD356 for manhole covers and frames, manhole adjustment rings, etc.
10. Max. pipe diameter varies with pipe material.
11. See Std. Dwg. RD342 for shallow manholes.
12. See project plans for details not shown.

CALC. BOOK NO. N/A

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

BASELINE REPORT DATE 25-JUL-2017

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

OREGON STANDARD DRAWINGS

STANDARD MANHOLE DETAILS

2018

DATE	REVISION DESCRIPTION

Effective Date: December 1, 2017 - May 31, 2018 **RD336**

NO.	DATE	BY	REVISIONS
2	3/12/18	SLM	UPDATE DETAILS
1	11/16/17	SLM	APPROVED BID DRAWINGS

DESIGNED	SLM	7/30/2017 DATE
DRAFTED	SLM	9/15/2017 DATE
CHECKED	JEG	11/15/2017 DATE
APPROVED	CLE	3/12/2018 DATE

REGISTERED PROFESSIONAL ENGINEER
84366PE
Sheri Markwardt
OREGON
MAY 22, 2015
SHERI LYNN MARKWARDT
EXPIRES: DECEMBER 31, 2018

CITY OF MILWAUKIE
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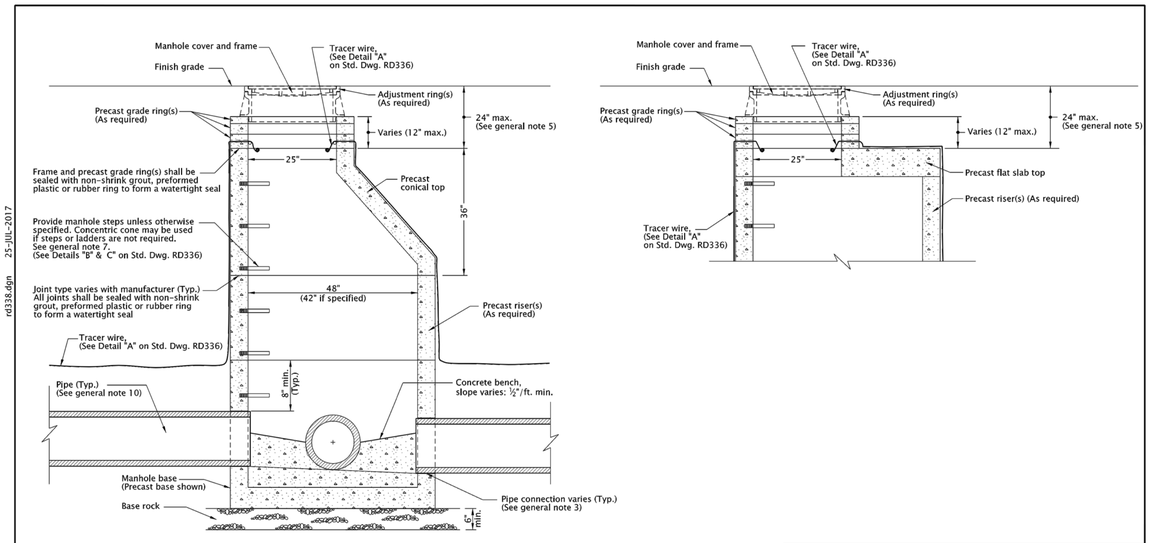
PHONE: 503-786-7600
FAX: 503-774-8236

2017 CLAY SEWER PIPE REPLACEMENT

CONSTRUCTION DETAILS

PROJECT NO.:	CONTRACT NO.:	DATE:	SHEET NO.:
2017-X10		11/16/2017	DT02



GENERAL NOTES FOR ALL DETAILS:

1. All precast products shall conform to requirements of ASTM C478.
2. Standard precast manhole section diameter shall be 48". Use 42" if specified by the Engineer.
3. See Std. Dwg. RD345 for pipe to manhole connections.
4. See Std. Dwg. RD344 for manhole base section.
5. Adjust 24" maximum.
6. All connecting pipes shall have a tracer wire, or approved alternate.
7. See Std. Dwg. RD336 for manhole steps.
8. See Std. Dwg. RD336 for details not shown.
9. See Std. Dwg. RD356 for manhole covers and frames, manhole adjustment rings, etc.
10. Max. pipe diameter varies with pipe material.
11. See Std. Dwg. RD342 for shallow manholes.
12. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.
13. This detail limited to interior drop of 24".
    See Std. Dwgs. RD350 or RD352 for drop manhole details for drops in excess of 24".

CALC. BOOK NO. N/A

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

BASELINE REPORT DATE 25-JUL-2017

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

OREGON STANDARD DRAWINGS

STANDARD SANITARY SEWER MANHOLE

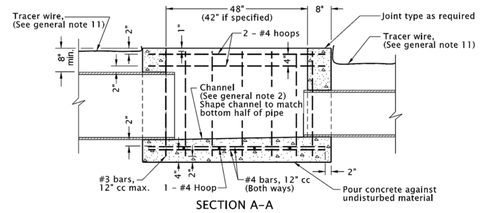
2018

DATE	REVISION DESCRIPTION

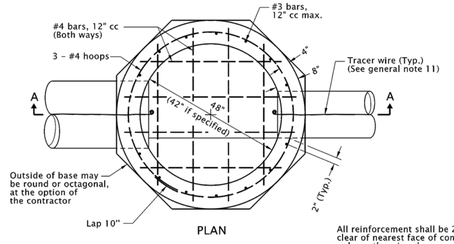
RD338

rd338.dgn 25-JUL-2017

Effective Date: December 1, 2017 - May 31, 2018 **RD338**



SECTION A-A

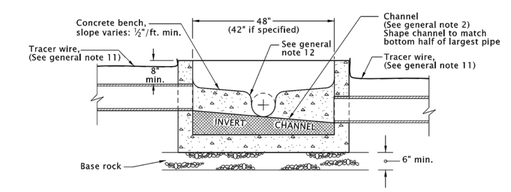


PLAN

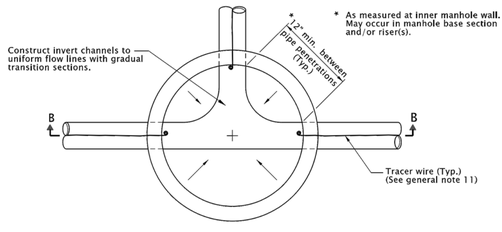
All reinforcement shall be 2" clear of nearest face of conc., unless otherwise shown.

CAST IN PLACE MANHOLE BASE

(For invert channel details, see precast option at right)



SECTION B-B



* As measured at inner manhole wall. May occur in manhole base section and/or riser(s).

PLAN

PRECAST MANHOLE BASE

GENERAL NOTES FOR ALL DETAILS:

1. All concrete shall be commercial grade concrete.
2. Channels shall be constructed to provide smooth slopes and radii to outlet pipe.
3. Bases may be precast or cast in place.
4. Max. pipe diameter varies with pipe material.
5. Use on 42" and 48" diameter manhole.
6. Extend pipe into manhole and grout smooth. Pipe(s) may extend 2" max. beyond the interior manhole wall.
7. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.
8. All precast products shall conform to the requirements of ASTM C478.
9. See Std. Dwg. RD345 for pipe to manhole connections.
10. See Std. Dwg. RD336 for manhole steps details.
11. See Std. Dwg. RD336 for tracer wire details.
12. At spring line of pipe, extend channel up to crown line on 12:1 batter.

CALC. BOOK NO. N/A

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

BASELINE REPORT DATE 14-JUL-2014

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

OREGON STANDARD DRAWINGS

STANDARD MANHOLE BASE SECTION

2018

DATE	REVISION DESCRIPTION

RD344

rd344.dgn 25-JUL-2017

Effective Date: December 1, 2017 - May 31, 2018 **RD344**

NO.	DATE	BY	REVISIONS
2	3/12/18	SLM	UPDATE DETAILS
1	11/16/17	SLM	APPROVED BID DRAWINGS

SLM	DESIGNED	7/30/2017 DATE
SLM	DRAFTED	9/15/2017 DATE
JEG	CHECKED	11/15/2017 DATE
CLE	APPROVED	3/12/2018 DATE

REGISTERED PROFESSIONAL ENGINEER 84366PE OREGON MAY 22, 2015 SHERI LYNN MARKWARDT

EXPIRES: DECEMBER 31, 2018

CITY OF MILWAUKIE

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MILWAUKIE, OR 97206

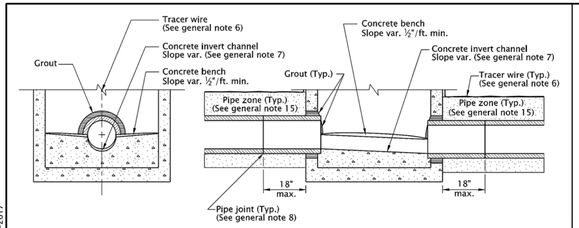
PHONE: 503-786-7600
FAX: 503-774-8236

2017 CLAY SEWER PIPE REPLACEMENT

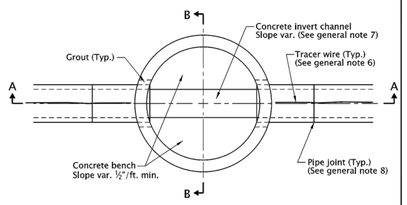
CONSTRUCTION DETAILS

PROJECT NO.:	CONTRACT NO.:	DATE:	SHEET NO.:
2017-X10		11/16/2017	DT03

Z:\Engineering\Capital Projects (CIP And CMP)\CIP-2017-X10 (Clay Replacement Project)\CADD\Plan Sheets\2017-X10-DT.dwg Apr. 17, 2018 - 5:27 PM sheri markwardt
Plot Date: 6/5/2018 12:53 PM sheri markwardt

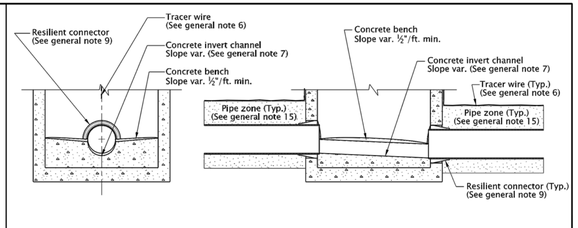


SECTION B–B SECTION A–A

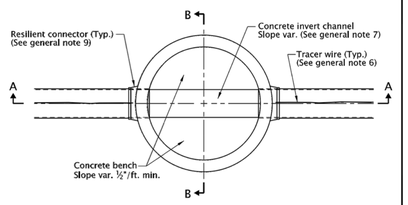


PLAN

CONNECTION OF RIGID PIPE TO MANHOLE



SECTION B–B SECTION A–A



PLAN

CONNECTION OF FLEXIBLE PIPE TO MANHOLE

GENERAL NOTES FOR ALL DETAILS:

1. All precast sections shall conform to requirements of ASTM C478.
2. Manhole base sections may be precast or cast-in-place.
3. All concrete shall be commercial grade concrete.
4. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.
5. Max. pipe diameter varies with pipe material.
6. All connecting pipes shall have a tracer wire, or approved alternate. See Std. Dwg. RD336 for tracer wire details.
7. Invert channels shall be constructed to provide smooth slopes and radii to outlet pipe.
8. When rigid pipe is used, the connecting pipe shall have a flexible, gasketted and unrestrained joint within 18" of manhole wall. Joint type varies with manufacturer.
9. When flexible pipe is used, install resilient connectors conforming to requirements of ASTM C923.
10. See Std. Dwgs. RD335, RD336, and RD338 for details not shown.
11. See Std. Dwg. RD336 for manhole steps details.
12. See Std. Dwg. RD342 for shallow manholes.
13. See Std. Dwg. RD344 for manhole base section.
14. See Std. Dwg. RD356 for manhole covers and frames, manhole adjustment rings, etc.
15. Pipe zone varies, see Std. Dwg. RD300.

CALC. BOOK NO. N/A

BASELINE REPORT DATE 14-JUL-2014

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

OREGON STANDARD DRAWINGS

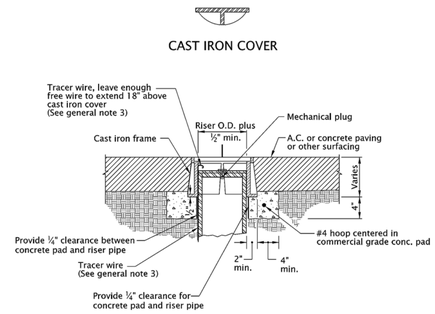
PIPE TO MANHOLE CONNECTIONS

2018

DATE	REVISION DESCRIPTION

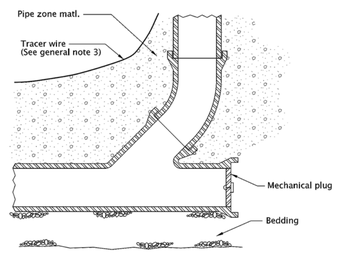
RD345

Effective Date: December 1, 2017 – May 31, 2018 **RD345**



CAST IRON COVER

CAST IRON FRAME



CLEANOUT

GENERAL NOTES FOR ALL DETAILS:

1. Casting shall meet H20 load requirement.
2. Provide riser size and material to match carrier pipe.
3. See Std. Dwg. RD336 for tracer wire details.
4. All concrete shall be commercial grade concrete.

CALC. BOOK NO. N/A

BASELINE REPORT DATE 14-JUL-2014

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

OREGON STANDARD DRAWINGS

SANITARY CLEANOUT

2018

DATE	REVISION DESCRIPTION

RD362

Effective Date: December 1, 2017 – May 31, 2018 **RD362**

NO.	DATE	BY	REVISIONS
2	3/12/18	SLM	UPDATE DETAILS
1	11/16/17	SLM	APPROVED BID DRAWINGS

SLM DESIGNED	7/30/2017 DATE
SLM DRAFTED	9/15/2017 DATE
JEG CHECKED	11/15/2017 DATE
CLE APPROVED	3/12/2018 DATE

REGISTERED PROFESSIONAL ENGINEER 84366PE OREGON MAY 22, 2015 SHERI LYNN MARKWARDT

EXPIRES: DECEMBER 31, 2018

CITY OF MILWAUKIE

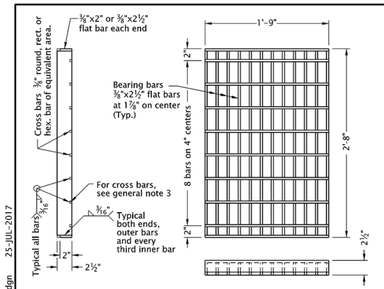
6101 SE JOHNSON CREEK BLVD.
MILWAUKIE, OR 97206

PHONE: 503-786-7600
FAX: 503-774-8236

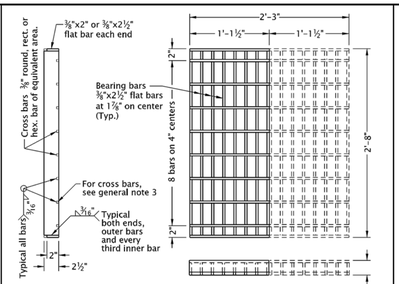
2017 CLAY SEWER PIPE REPLACEMENT

CONSTRUCTION DETAILS

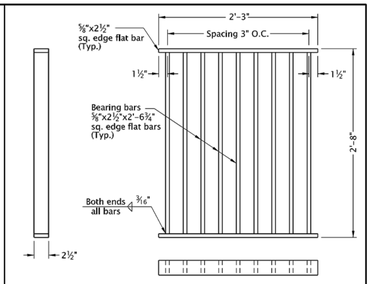
PROJECT NO.: 2017-X10 | CONTRACT NO.: | DATE: 11/16/2017 | SHEET NO.: DT04



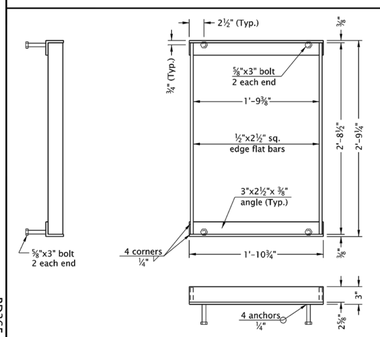
G-1, CG-1 GRATE
(TYPE 2)
(Bicycle-safe)



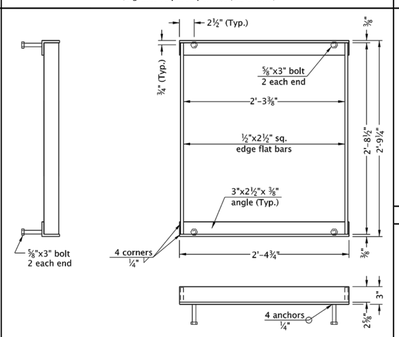
G-2, G-2M, G-2MA, CG-2 GRATE
(TYPE 2)
(Bicycle-safe)
(2 grates required per inlet, as shown)



G-2, G-2M, G-2MA, CG-2 GRATE
(TYPE 1)
(See general note 2)



G-1, CG-1 FRAME



G-2, G-2M, G-2MA, CG-2 FRAME

GENERAL NOTES FOR ALL DETAILS:

1. For inlet details, see appropriate inlet standard drawing(s).
2. Type 1 grate allowed only in locations not subject to bicycle or pedestrian use.
3. ⅜" cross bars shall be flush with the top of grate surface and may be fillet welded, resistance welded or electroforged to bearing bars.
4. Hot dip galvanize after fabrication.
5. Cast iron grate and frame are acceptable alternates. See ODOT's QPL.

CALC. BOOK NO. N/A

BASELINE REPORT DATE 14-JUL-2014

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS

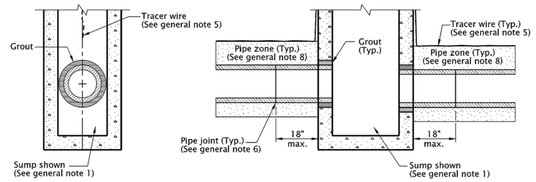
FRAMES & GRATES FOR CONCRETE INLETS

2018

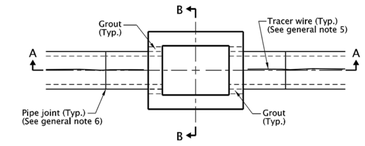
DATE	REVISION DESCRIPTION

RD365

Effective Date: December 1, 2017 - May 31, 2018 RD365

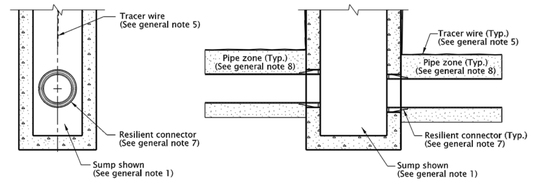


SECTION B-B SECTION A-A

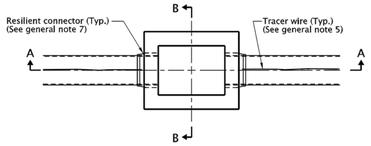


PLAN

CONNECTION OF RIGID PIPE TO STRUCTURE



SECTION B-B SECTION A-A



PLAN

CONNECTION OF FLEXIBLE PIPE TO STRUCTURE

GENERAL NOTES FOR ALL DETAILS:

1. See Std. Dwgs. RD364, RD365, and RD366 for inlet details not shown.
2. See appropriate standard drawings or special project details for other similar structures.
3. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.
4. Max. pipe diameter varies with pipe material.
5. All connecting pipes shall have a tracer wire, or approved alternate. See Std. Dwg. RD336 for tracer wire details.
6. When rigid pipe is used, the connecting pipe shall have a flexible, gasketted and unrestrained joint within 18" of manhole wall. Joint type varies with manufacturer.
7. When flexible pipe is used, install resilient connectors conforming to requirements of ASTM C923.
8. Pipe zone varies, see Std. Dwg. RD300.

CALC. BOOK NO. N/A

BASELINE REPORT DATE 14-JUL-2014

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS

PIPE TO STRUCTURE CONNECTIONS

2018

DATE	REVISION DESCRIPTION

RD339

Effective Date: December 1, 2017 - May 31, 2018 RD339

NO.	DATE	BY	REVISIONS
2	3/12/18	SLM	UPDATE DETAILS
1	11/16/17	SLM	APPROVED BID DRAWINGS

SLM	DESIGNED	7/30/2017 DATE
SLM	DRAFTED	9/15/2017 DATE
JEG	CHECKED	11/15/2017 DATE
CLE	APPROVED	3/12/2018 DATE

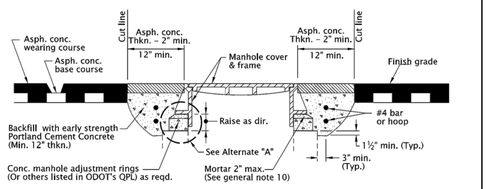
REGISTERED PROFESSIONAL ENGINEER 84366PE OREGON MAY 22, 2015 SHERI LYNN MARKWARDT
EXPIRES: DECEMBER 31, 2018

CITY OF MILWAUKIE
6101 SE JOHNSON CREEK BLVD.
MILWAUKIE, OR 97206
PHONE: 503-786-7600
FAX: 503-774-8236

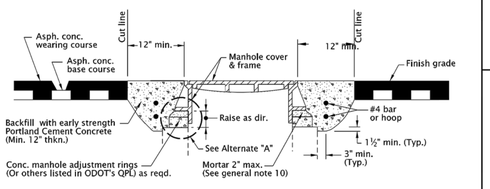
2017 CLAY SEWER PIPE REPLACEMENT

CONSTRUCTION DETAILS

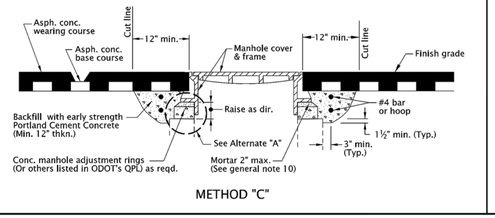
PROJECT NO.:	CONTRACT NO.:	DATE:	SHEET NO.:
2017-X10		11/16/2017	DT05



METHOD "A"

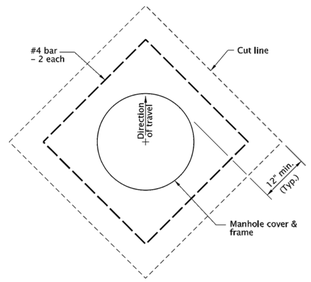


METHOD "B"

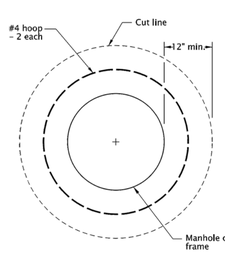


METHOD "C"

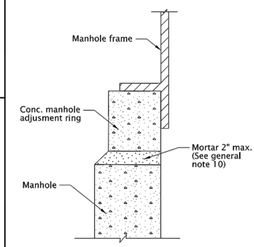
RD360



PLAN
SQUARE CUT



PLAN
CIRCULAR CUT



ALTERNATE "A"

GENERAL NOTES FOR ALL DETAILS:

1. Cover manhole with building paper and const. asph. conc. base course and wearing courses.
2. Saw cut square or circular excavation around manhole 12" min. from manhole frame.
3. Raise manhole cover and frame to finish grade by installing conc. manhole adjustment rings and leveling mortar, as shown.
4. Backfill with early strength Portland Cement Concrete. All concrete shall be commercial grade concrete.
5. Protect from traffic loading until conc. has cured to 3000 psi.
6. Apply tack coat to edges of existing pavement before installing patch.
7. Finish joint with asphalt seal and sand.
8. See Std. Dwg. RD336 for manhole steps details.
9. See appropriate manhole standard drawings for details not shown.
10. Use epoxy for synthetic grade rings.
11. See Std. Dwg. RD336 for tracer wire details.
12. See Std. Dwg. RD356 for manhole covers and frames.

CALC. BOOK NO. N/A

BASELINE REPORT DATE 21-JUL-2015

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

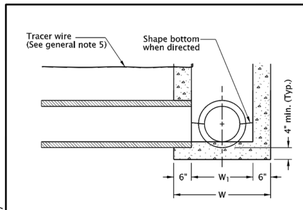
OREGON STANDARD DRAWINGS

MANHOLE FRAME ADJUSTMENT

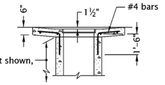
2018

DATE	REVISION DESCRIPTION

Effective Date: December 1, 2017 – May 31, 2018 **RD360**



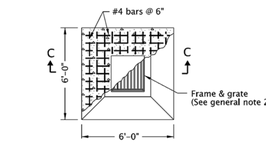
DETAIL A
WITHOUT SUMP



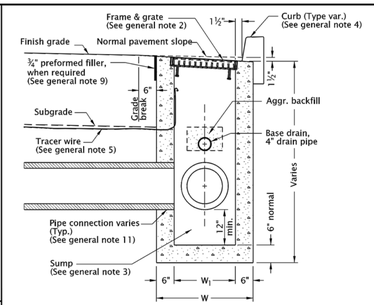
SECTION C–C

NOTE:

All reinforcement to be placed 2" clear of nearest face of concrete unless shown or noted otherwise

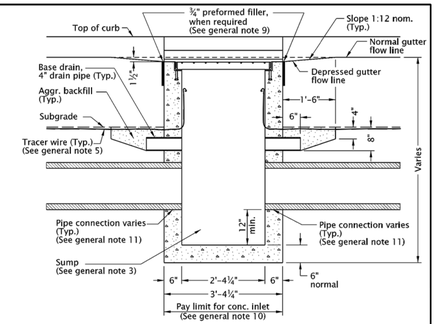


PLAN
TYPE G-2MA

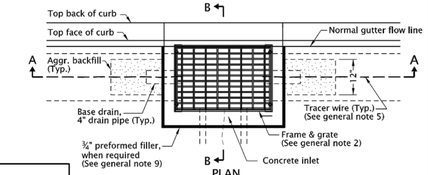


SECTION B – B

TABLE A		
INLET TYPE	W	W1
G-1	2'-8⅝"	1'-8⅝"
G-2, G-2M, G-2MA	3'-3⅜"	2'-3⅜"



SECTION A – A



PLAN
TYPE G-1, G-2, G-2M

GENERAL NOTES FOR ALL DETAILS:

1. Where precast inlets are used as an alternate to cast-in-place inlets, a 4" compacted leveling bed of sand or ¼"–0 crushed aggregate shall be provided. All precast inlets shall conform to requirements of ASTM C913.
2. Graphics show G-1 inlet with Type 2 grate. See Table A for inlet dimensions.
   Type 1 grate allowed only in locations not subject to bicycle or pedestrian use.
   For frame and grate details, see Std. Dwg. RD365.
3. Provide sump only where shown on plans, and allowed by jurisdiction. See Detail A for inlet without sump.
4. For curb details, see Std. Dwgs. RD700 & RD701.
5. See Std. Dwg. RD336 for tracer wire details, or approved alternate.
6. Max. pipe diameter varies with pipe material.
7. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.
8. All concrete shall be commercial grade concrete.
9. ¾" preformed filler (in concrete pavement or gutter only) to extend through thickness of concrete.
10. See Std. Dwg. RD363 for gutter transition section, when curb and gutter are required.
11. See Std. Dwg. RD339 for pipe to structure connections.

CALC. BOOK NO. N/A

BASELINE REPORT DATE 21-JUL-2015

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS

CONCRETE INLETS
TYPE G-1, G-2, G-2M, & G-2MA

2018

DATE	REVISION DESCRIPTION

Effective Date: December 1, 2017 – May 31, 2018 **RD364**

NO.	DATE	BY	REVISIONS
2	3/12/18	SLM	UPDATE DETAILS
1	11/16/17	SLM	APPROVED BID DRAWINGS

SLM	7/30/2017	DESIGNED
SLM	9/15/2017	DRAFTED
JEG	11/15/2017	CHECKED
CLE	3/12/2018	APPROVED

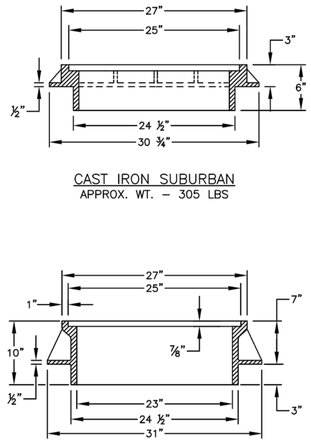
REGISTERED PROFESSIONAL ENGINEER
84366PE
OREGON
MAY 22, 2015
SHERI LYNN MARKWARDT
EXPIRES: DECEMBER 31, 2018

CITY OF MILWAUKIE
6101 SE JOHNSON CREEK BLVD.
MILWAUKIE, OR 97206
PHONE: 503-786-7600
FAX: 503-774-8236

2017 CLAY SEWER PIPE REPLACEMENT

CONSTRUCTION DETAILS

PROJECT NO.:	CONTRACT NO.:	DATE:	SHEET NO.:
2017-X10		11/16/2017	DT06



CAST IRON STANDARD
APPROX. WT. – 387 LBS

CAST IRON SUBURBAN
APPROX. WT. – 305 LBS

NOTES:

1. COVER AND FRAME TO BE MACHINED FOR TRUE BEARING.
2. MATERIAL SHALL BE GREY CAST IRON ASTM A–48 CLASS 30.
3. SUBURBAN FRAMES ARE ONLY AUTHORIZED TO BE USED IN NON–VEHICULAR AREAS.

LIDS MAY BE PURCHASED FROM THE CITY OR THE MANUFACTURER

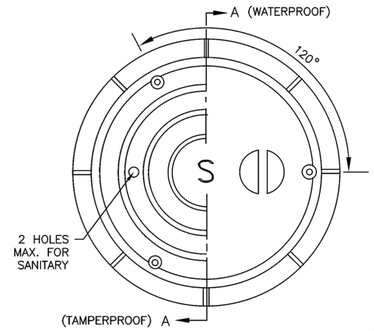
CITY OF MILWAUKIE, OREGON – PUBLIC WORKS DEPT.

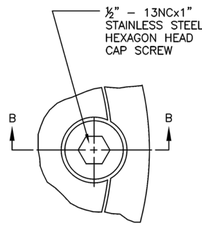
Sanitary Sewer Manhole Frame and Cover

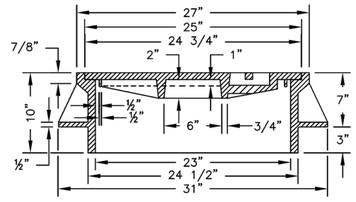
DRAWING NO. 304

APPROVED JASON RICE 12/14
CITY ENGINEER DATE

NO.	REVISIONS	DATE	BY
1	CLEAN–UP	10/09	GP
2	GENERAL FORMATTING	12/10	MCP
3	DRAWING NO. CHANGE, PURCHASING NOTE	12/12	MCP

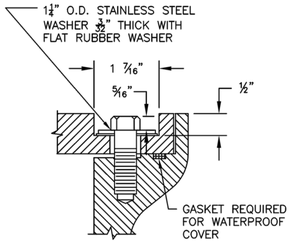






(FRAMES AVAILABLE IN STANDARD OR SUBURBAN)

SECTION A–A



SECTION B–B

NOTES:

1. TAMPER PROOF COVERS REQUIRED ON SANITARY OR STORM MANHOLES LOCATED WITHIN UNIMPROVED EASEMENTS AND RIGHT–OF–WAY.
2. WATER TIGHT COVERS REQUIRED IF LOCATED WHERE COVER MAY BE SUBMERGED.
3. COVER AND FRAME TO BE MACHINED FOR TRUE BEARING.
4. MATERIAL SHALL BE GREY CAST IRON ASTM A–48 CLASS 30.

LIDS MAY BE PURCHASED FROM THE CITY OR THE MANUFACTURER

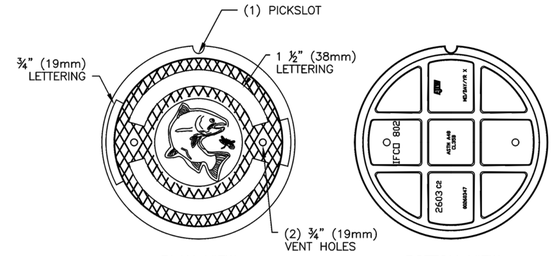
CITY OF MILWAUKIE, OREGON – PUBLIC WORKS DEPT.

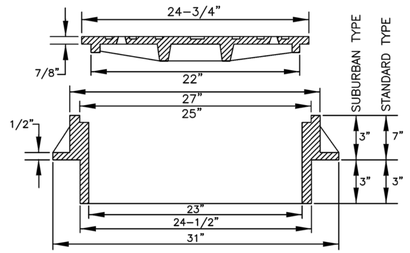
Waterproof and Tamperproof Frame and Cover

DRAWING NO. 305

APPROVED JASON RICE 12/14
CITY ENGINEER DATE

NO.	REVISIONS	DATE	BY
1	DELETION OF LOCATING STUD	01/10	JLR
2	GENERAL FORMATTING	12/10	MCP
3	DRAWING NO. CHANGE, PURCHASING NOTE	12/12	MCP





NOTES:

1. USE SUBURBAN TYPE ONLY IN NON–TRAFFIC AREAS, AND ONLY WITH APPROVAL BY THE CITY.
2. COVER AND FRAME SHALL BE GRAY CAST IRON ASTM A–48 CLASS 30.
3. COVER AND FRAME TO BE MACHINED TO A TRUE BEARING ALL AROUND.
4. NOTCH LID FOR LIFTING HOOK.

LIDS MAY BE PURCHASED FROM THE CITY OR THE MANUFACTURER

CITY OF MILWAUKIE, OREGON – PUBLIC WORKS DEPT.

Storm Manhole Frame and Lid

DRAWING NO. 617

APPROVED JASON RICE 12/14
CITY ENGINEER DATE

NO.	REVISIONS	DATE	BY
1	REVISED DRYWELL LID TYPE	03/10	BSA
2	REMOVED NOTE ALLOWING OPEN GRATES	12/10	MCP
3	CHANGED LID DETAIL	12/12	MTC

NO.	DATE	BY	REVISIONS
2	3/12/18	SLM	UPDATE DETAILS
1	11/16/17	SLM	APPROVED BID DRAWINGS

SLM	DESIGNED	7/30/2017 DATE
SLM	DRAFTED	9/15/2017 DATE
JEG	CHECKED	11/15/2017 DATE
CLE	APPROVED	3/12/2018 DATE

REGISTERED PROFESSIONAL ENGINEER
84366PE
Sheri Markwardt
OREGON
MAY 22, 2015
SHERI LYNN MARKWARDT
EXPIRES: DECEMBER 31, 2018

CITY OF MILWAUKIE

6101 SE JOHNSON CREEK BLVD.
MILWAUKIE, OR 97206

PHONE: 503–786–7600
FAX: 503–774–8236

2017 CLAY SEWER PIPE REPLACEMENT

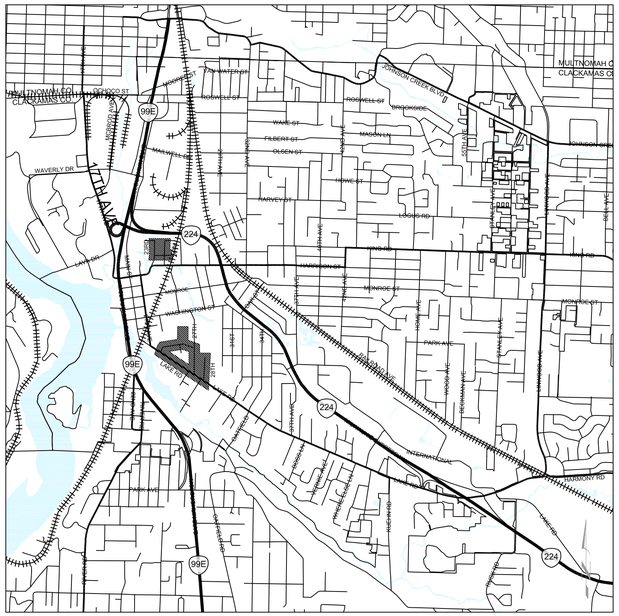
CONSTRUCTION DETAILS

PROJECT NO.:	CONTRACT NO.:	DATE:	SHEET NO.:
2017–X10		11/16/2017	DT07

2017 CLAY SEWER PIPE REPLACEMENT

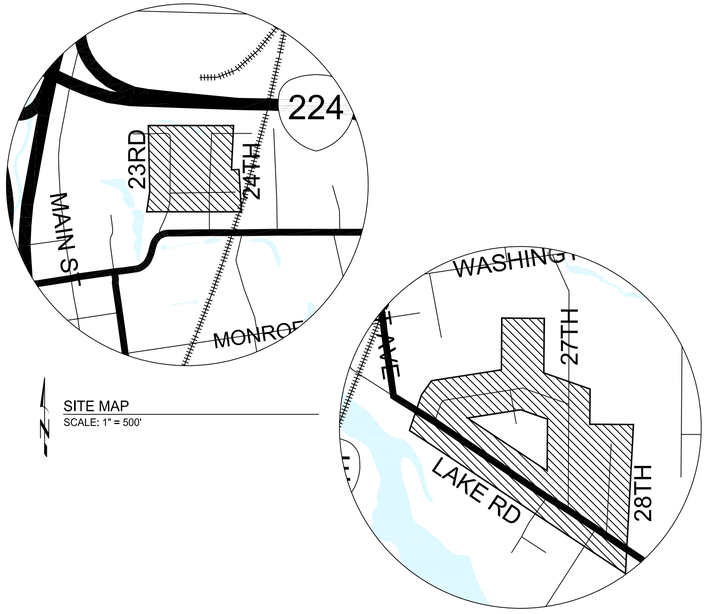
CIP-2017-X10

EROSION AND SEDIMENT CONTROL PLANS



VICINITY MAP

SCALE: 1" = 2000'



SITE MAP

SCALE: 1" = 500'

OWNER REPRESENTATIVE:

NAME: CITY OF MILWAUKIE
ADDRESS: 1601 SE JOHNSON CREEK BLVD
MILWAUKIE, OREGON 97206
PHONE: 503-786-7610
CONTACT: SHERI MARKWARDT, PE
EMAIL: MARKWARDTS@MILWAUKIEOREGON.GOV

ENGINEERING CONTACT

NAME: CITY OF MILWAUKIE
ADDRESS: 1601 SE JOHNSON CREEK BLVD
MILWAUKIE, OREGON 97206
PHONE: 503-786-7610
CONTACT: SHERI MARKWARDT, PE
EMAIL: MARKWARDTS@MILWAUKIEOREGON.GOV

PROPERTY LOCATION:

SE LAKE ROAD, SE WILLARD ROAD, SE 23RD AVENUE, SE 24TH AVENUE, SE 27TH AVENUE AND SE 28TH AVENUE LOCATED IN THE CITY OF MILWAUKIE.

PROPERTY DESCRIPTION:

SE LAKE ROAD, SE WILLARD ROAD, SE 23RD AVENUE, SE 24TH AVENUE, SE 27TH AVENUE AND SE 28TH AVENUE LOCATED IN THE CITY OF MILWAUKIE.

NARRATIVE DESCRIPTION:

EXISTING SITE CONDITIONS:
PAVED ROAD WITH UTILITIES.

DEVELOPED CONDITIONS:
PAVED ROAD WITH UTILITIES.

SITE SOIL CLASSIFICATION:
LATOURELL LOAM, 3 TO 8 PERCENT SLOPES
WOODBURN SILT LOAM, 3 TO 8 PERCENT SLOPES
URBAN LAND

RECEIVING WATER BODIES:
JOHNSON CREEK AND KELLOGG CREEK.

NATURE OF CONSTRUCTION ACTIVITY AND ESTIMATED TIME TABLE
*CLEARING N/A
*GRADING N/A
*UTILITY INSTALLATION JUNE 2018-AUGUST 2018
*STREET CONSTRUCTION N/A
*FINAL STABILIZATION AUGUST 2018

INSPECTION FREQUENCY

SITE CONDITION	MINIMUM FREQUENCY
1. ACTIVE PERIOD	DAILY WHEN STORMWATER RUNOFF, INCLUDING RUNOFF FROM SNOWMELT, IS OCCURRING.
2. PRIOR TO THE SITE BECOMING INACTIVE OR IN ANTICIPATION OF SITE INACCESSIBILITY.	ONCE TO ENSURE THAT EROSION AND SEDIMENT CONTROL MEASURES ARE IN WORKING ORDER. ANY NECESSARY MAINTENANCE AND REPAIR MUST BE MADE PRIOR TO LEAVING THE SITE.
3. INACTIVE PERIODS GREATER THAN SEVEN (7) CONSECUTIVE CALENDAR DAYS.	ONCE EVERY TWO (2) WEEKS.
4. PERIODS DURING WHICH THE SITE IS INACCESSIBLE DUE TO INCLEMENT WEATHER.	IF PRACTICAL, INSPECTIONS MUST OCCUR DAILY AT A RELEVANT AND ACCESSIBLE DISCHARGE POINT OR DOWNSTREAM LOCATION.

* HOLD A PRE-CONSTRUCTION MEETING OF PROJECT CONSTRUCTION PERSONNEL, INCLUDING THE INSPECTOR, TO DISCUSS EROSION AND SEDIMENT CONTROL MEASURES AND CONSTRUCTION LIMITS.
* ALL INSPECTIONS MUST BE MADE IN ACCORDANCE WITH 1200-CN PERMIT REQUIREMENTS.
* INSPECTION LOGS MUST BE KEPT IN ACCORDANCE WITH 1200-CN PERMIT REQUIREMENTS.
* RETAIN A COPY OF THE ESC PLAN AND ALL REVISIONS ON SITE AND MAKE IT AVAILABLE ON REQUEST TO DEQ, AGENT, OR THE LOCAL MUNICIPALITY. DURING INACTIVE PERIODS OF GREATER THAN SEVEN (7) CONSECUTIVE CALENDAR DAYS, RETAIN THE ESC PLAN AT THE CONSTRUCTION SITE OR AT ANOTHER LOCATION.
* CHANGES TO THE APPROVED ESC PLAN MUST BE SUBMITTED TO DEQ IN THE FORM OF AN ACTION PLAN.

SHEET INDEX

BMP MATRIX FOR CONSTRUCTION PHASES

REFER TO DEQ GUIDANCE MANUAL FOR A COMPREHENSIVE LIST OF AVAILABLE BMP'S.

	CLEARING	MASS GRADING	UTILITY INSTALLATION	STREET CONSTRUCTION	FINAL STABILIZATION	WET WEATHER (OCT 1-MAY 31)
EROSION PREVENTION						
PRESERVE NATURAL VEGETATION			X		X	X
GROUND COVER					X	X
HYDRAULIC APPLICATIONS						
PLASTIC SHEETING			X		X	X
MATTING						
DUST CONTROL			X		X	X
TEMPORARY/ PERMANENT SEEDING			X		X	X
BUFFER ZONE						
OTHER:						
SEDIMENT CONTROL						
SEDIMENT FENCE (PERIMETER)						
SEDIMENT FENCE (INTERIOR)			X		X	X
BIO BAGS IN GUTTER LINE			X		X	X
FILTER BERM						
INLET PROTECTION			X		X	X
DEWATERING						
SEDIMENT TRAP						
OTHER:						
RUN OFF CONTROL						
CONSTRUCTION ENTRANCE						
PIPE SLOPE DRAIN						
OUTLET PROTECTION						
SURFACE ROUGHENING						
CHECK DAMS						
OTHER:						
POLLUTION PREVENTION						
PROPER SIGNAGE			X		X	X
HAZ WASTE MGMT			X		X	X
SPILL KIT ON-SITE			X		X	X
CONCRETE WASHOUT AREA			X		X	X
OTHER:						

** SIGNIFIES BMP THAT WILL BE INSTALLED PRIOR TO ANY GROUND DISTURBING ACTIVITY.

RATIONALE STATEMENT

A COMPREHENSIVE LIST OF AVAILABLE BEST MANAGEMENT PRACTICES (BMP) OPTIONS BASED ON DEQ's GUIDANCE MANUAL HAS BEEN REVIEWED TO COMPLETE THIS EROSION AND SEDIMENT CONTROL PLAN. SOME OF THE ABOVE LISTED BMP's WERE NOT CHOSEN BECAUSE THEY WERE DETERMINED TO NOT EFFECTIVELY MANAGE EROSION PREVENTION AND SEDIMENT CONTROL FOR THIS PROJECT BASED ON SPECIFIC SITE CONDITIONS, INCLUDING SOIL CONDITIONS, TOPOGRAPHIC CONSTRAINTS, ACCESSIBILITY TO THE SITE, AND OTHER RELATED CONDITIONS, AS THE PROJECT PROGRESSES AND THERE IS A NEED TO REVISE THE ESC PLAN, AN ACTION PLAN WILL BE SUBMITTED.

INITIAL _____

PERMITTEE'S SITE INSPECTOR:

COMPANY NAME: CITY OF MILWAUKIE
PHONE: 503-786-7608
FAX: 503-774-8236
CONTACT: JENNIFER BACKHAUS
E-MAIL: BACKHAUSJ@MILWAUKIEOREGON.GOV

DESCRIPTION OF EXPERIENCE: (LIST YEARS AND TYPE OF EXPERIENCE)

THE PERMITTEE IS REQUIRED TO MEET ALL THE CONDITIONS OF THE DEQ 1200-CN PERMIT. THE ESC PLAN AND GENERAL CONDITIONS HAVE BEEN DEVELOPED TO FACILITATE COMPLIANCE WITH THE 1200-CN PERMIT REQUIREMENTS. IN CASES OF DISCREPANCIES OR OMISSIONS, THE 1200-CN PERMIT REQUIREMENTS SUPERCEDE REQUIREMENTS OF THIS PLAN.

ATTENTION EXCAVATORS

OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. YOU MAY OBTAIN COPIES OF THESE RULES FROM THE CENTER BY CALLING 503-232-1987. IF YOU HAVE ANY QUESTIONS ABOUT THE RULES, YOU MAY CONTACT THE CENTER. YOU MUST NOTIFY THE CENTER AT LEAST TWO BUSINESS DAYS, BEFORE COMMENCING AN EXCAVATION. CALL 503-246-6699.

811 Know what's below. Call before you dig.

NO.	DATE	BY	REVISIONS
2	3/12/18	SLM	UPDATE DETAILS
1	11/16/17	SLM	APPROVED BID DRAWINGS

SLM	DESIGNED	7/30/2017 DATE
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FAX: 503-774-8236

2017 CLAY SEWER PIPE REPLACEMENT

EROSION CONTROL COVER SHEET

PROJECT NO.:	CONTRACT NO.:	DATE:	SHEET NO.:
2017-X10		11/16/2017	EC01

STANDARD EROSION AND SEDIMENT CONTROL PLAN DRAWING NOTES

1. APPLY TEMPORARY AND PERMANENT SOIL STABILIZATION MEASURES ON ALL DISTURBED AREAS AS GRADING PROGRESSES. (SCH A.5.b.ii.6.)
2. CONSTRUCTION ACTIVITIES MUST AVOID OR MINIMIZE EXCAVATION AND CREATION OF BARE GROUND FROM OCTOBER 1 THROUGH MAY 31 EACH YEAR. (SCH A.7.a.i.)
3. DURING WET WEATHER PERIODS TEMPORARY STABILIZATION OF THE SITE MUST OCCUR AT THE END OF EACH WORK DAY IF RAINFALL IS FORECAST IN THE NEXT 24 HOURS. (SCH A.7.a.ii.)
4. ALL EROSION AND SEDIMENT CONTROLS NOT IN THE DIRECT PATH OF WORK MUST BE INSTALLED PRIOR TO ANY LAND DISTURBANCE. (SCH A.7.c.ii.)
5. PRESERVE EXISTING VEGETATION AND RE-VEGETATE OPEN AREAS WHEN PRACTICABLE BEFORE AND AFTER GRADING OR CONSTRUCTION (SCHA.7.c.iii.1)
6. ALL TEMPORARY SEDIMENT CONTROLS MUST REMAIN IN PLACE UNTIL PERMANENT VEGETATION OR OTHER PERMANENT COVERING OF EXPOSED SOIL IS ESTABLISHED. (SCH A.7.c.iii.3.)
7. SEDIMENT CONTROLS MUST BE INSTALLED AND MAINTAINED ON ALL DOWN GRADIENT SIDES OF THE CONSTRUCTION SITE AT ALL TIMES DURING CONSTRUCTION. (SCH A.7.d.i.(1))
8. ALL ACTIVE CATCH BASINS MUST HAVE SEDIMENT CONTROLS INSTALLED AND MAINTAINED AT ALL TIMES DURING CONSTRUCTION. (SCH A.7.d.i.(2))
9. WATERTIGHT TRUCKS MUST BE USED TO TRANSPORT SATURATED SOILS FROM THE CONSTRUCTION SITE. AN APPROVED EQUIVALENT IS TO DRAIN THE SOIL ON-SITE AT A DESIGNATED LOCATION USING APPROPRIATE BMP's; SOIL MUST BE DRAINED SUFFICIENTLY FOR MINIMAL SPILLAGE. (SCH A.7.d.iii.3)
10. TEMPORARY STABILIZATION OR COVERING OF SOIL STOCKPILES MUST OCCUR AT THE END OF EACH WORK DAY OR OTHER BMP's MUST BE IMPLEMENTED TO PREVENT TURBID DISCHARGES TO SURFACE WATERS. (SCH A.7.e.ii.2.)
11. DEVELOP AND MAINTAIN ONSITE A WRITTEN SPILL PREVENTION AND RESPONSE PROCEDURE. (SCH A.7.e.iii.3)
12. ANY USE OF TOXIC OR OTHER HAZARDOUS MATERIALS MUST INCLUDE PROPER STORAGE, APPLICATION, AND DISPOSAL. (SCH A.7.e.iii.(2))
13. THE PERMITTEE MUST PROPERLY PREVENT AND MANAGE HAZARDOUS WASTE, USED OILS, CONTAMINATED SOILS, CONCRETE WASTE, SANITARY WASTE, LIQUID WASTE, OR OTHER TOXIC SUBSTANCES DISCOVERED OR GENERATED DURING CONSTRUCTION. (SCH A.7.e.i.1 AND SCH A.7.e.iii.4)
14. SIGNIFICANT AMOUNTS OF SEDIMENT WHICH LEAVE THE SITE MUST BE CLEANED UP WITHIN 24 HOURS AND PLACED BACK ON THE SITE AND STABILIZED OR PROPERLY DISPOSED. THE CAUSE OF THE SEDIMENT RELEASE MUST BE FOUND AND PREVENTED FROM CAUSING A REOCCURRENCE OF THE DISCHARGED WITHIN THE SAME 24 HOURS. ANY IN-STREAM CLEAN UP OF SEDIMENT SHALL BE PERFORMED ACCORDING TO THE OREGON DIVISION OF STATE LANDS REQUIRED TIME FRAME. (SCH A.7.f.i.1)
15. SEDIMENT MUST NOT BE INTENTIONALLY WASHED INTO STORM SEWERS, DRAINAGE WAYS, OR WATERBODIES. DRY SWEEPING MUST BE USED TO CLEAN UP RELEASED SEDIMENTS. (SCH A.7.f.i.2)
16. THE APPLICATION RATE OF FERTILIZERS USED TO REESTABLISH VEGETATION MUST FOLLOW THE MANUFACTURER'S RECOMMENDATIONS. NUTRIENT RELEASES FROM FERTILIZERS TO SURFACE WATERS MUST BE MINIMIZED. TIME RELEASE FERTILIZERS SHOULD BE USED AND CARE SHOULD BE TAKEN IN THE APPLICATION OF FERTILIZERS WITHIN ANY WATER WAY RIPARIAN ZONE. (SCH A.7.f.i.3.)
17. SEDIMENT MUST BE REMOVED FROM BEHIND SEDIMENT FENCE WHEN IT HAS REACHED A HEIGHT OF $\frac{1}{3}$ THE HEIGHT OF THE FENCE ABOVE THE GROUND, AND BEFORE FENCE REMOVAL. (SCH A.7.f.ii.1.)
18. SEDIMENT MUST BE REMOVED FROM BEHIND BIO BAGS AND OTHER BARRIERS WHEN IT HAS REACHED A HEIGHT OF TWO (2) INCHES AND BEFORE BMP REMOVAL. (SCH A.7.f.ii.2.)
19. CLEANING OF TRAPPED CATCH BASINS MUST OCCUR WHEN THE SEDIMENT RETENTION CAPACITY HAS BEEN REDUCED BY FIFTY (50) PERCENT, AND AT COMPLETION OF PROJECT. (SCH A.7.f.ii.3.)
20. REMOVAL OF TRAPPED SEDIMENT IN A SEDIMENT BASIN OR SEDIMENT TRAP MUST OCCUR WHEN THE SEDIMENT RETENTION CAPACITY HAS BEEN REDUCED BY FIFTY (50) PERCENT, AND AT COMPLETION OF PROJECT. (SCH A.7.f.ii.3&4)
21. DEQ MUST APPROVE OF ANY TREATMENT SYSTEM AND OPERATIONAL PLAN THAT MAY BE NECESSARY TO TREAT CONTAMINATED CONSTRUCTION DEWATERING OR SEDIMENT AND TURBIDITY IN STORMWATER RUNOFF. (SCH A.7.f.iii.)
22. SHOULD ALL CONSTRUCTION ACTIVITIES CEASE FOR THIRTY (30) DAYS OR MORE, THE ENTIRE SITE MUST BE TEMPORARILY STABILIZED USING VEGETATION OR A HEAVY MULCH LAYER, TEMPORARY SEEDING, OR OTHER METHOD. (SCH A.8.a.)
23. SHOULD CONSTRUCTION ACTIVITIES CEASE FOR FIFTEEN (15) DAYS OR MORE ON ANY SIGNIFICANT PORTION OF A CONSTRUCTION SITE, TEMPORARY STABILIZATION IS REQUIRED FOR THAT PORTION OF THE SITE WITH STRAW, COMPOST, OR OTHER TACKIFIED COVERING THAT WILL PREVENT SOIL OR WIND EROSION UNTIL WORK RESUMES ON THAT PORTION OF THE SITE. (SCH A.8.b.)

LOCAL AGENCY-SPECIFIC EROSION CONTROL NOTES

1. ALL EROSION PREVENTION MEASURES SHALL BE IN PLACE, FUNCTIONAL, AND APPROVED IN ACCORDANCE WITH THE APPROVED EROSION PREVENTION AND SEDIMENT CONTROL PLAN PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES. ALL SOIL DISTURBING AND CONSTRUCTION ACTIVITIES SHALL BE CONDUCTED IN ACCORDANCE WITH MMC CHAPTER 16.28 EROSION CONTROL AND ANY APPLICABLE LOCAL, STATE, OR FEDERAL REQUIREMENTS.
2. ALTERNATE SEDIMENT CONTROLS MUST PROVIDE A DISCHARGE THAT IS CLEAN AND FREE OF SEDIMENT, SURFACTANTS, AND OTHER POLLUTANTS PRIOR TO ENTERING THE STORM SYSTEM. APPROVAL OF ALTERNATIVE SEDIMENT CONTROLS BY THE CITY OF MILWAUKIE WASTEWATER DIVISION MANAGER IS REQUIRED PRIOR TO INSTALLATION.
3. DUMPING OR DISPOSAL OF SPOIL MATERIALS INTO ANY STREAM CORRIDOR, WETLAND, SURFACE WATER, OR ON ANY PUBLIC OR PRIVATE PROPERTY NOT SPECIFIED FOR SAID PURPOSE IS PROHIBITED.
4. SEDIMENT AND POLLUTANTS SHALL NOT BE WASHED INTO STORM SEWERS, DRAINAGE WAYS, OR WATER BODIES. DRY SWEEPING SHALL BE IMPLEMENTED TO CLEAN UP CONSTRUCTION AREAS TO PREVENT RELEASE OF SEDIMENTS INTO THE STORM SYSTEM.
5. DISPOSAL OF SEDIMENT LADEN WATER INTO THE WASTEWATER SYSTEM IS PROHIBITED, UNLESS PRIOR WRITTEN APPROVAL IS RECEIVED FROM THE CITY OF MILWAUKIE WASTEWATER DIVISION MANAGER. SEDIMENT LADEN WATER SHALL BE PUMPED THROUGH AN APPROVED SEDIMENT CONTROL BMP PRIOR TO DISPOSAL INTO THE WASTEWATER SYSTEM.
6. SAWCUTTING SLURRY AND DEBRIS SHALL BE VACUUMED AND REMOVED FROM ALL IMPERVIOUS SURFACES. VACUUMED SAWCUTTING SLURRY SHALL BE PROPERLY DISPOSED OF AND NOT DISCHARGED INTO THE STORM SYSTEM.
7. AN AREA SHALL BE DESIGNATED FOR WASHING OUT CONCRETE TRUCKS SUCH THAT RUNOFF FROM WASHING ACTIVITIES ARE CONTAINED AND DO NOT LEAVE THE SITE OR ENTER THE STORM SYSTEM.
8. SWEEPING FROM EXPOSED AGGREGATE CONCRETE SHALL NOT BE WASHED TO THE STREET OR STORM SYSTEM. SWEEPING SHALL BE COLLECTED AND PROPERLY DISPOSED OF IN THE TRASH.
9. PAVING IN WET WEATHER WHEN PAVING CHEMICALS CAN RUN OFF INTO THE STORM SYSTEM IS PROHIBITED.
10. TRACKING OF DIRT AND DEBRIS ONTO IMPERVIOUS SURFACES, SUCH AS STREETS AND PARKING LOTS, IS PROHIBITED. IMPERVIOUS SURFACES SHALL BE KEPT FREE OF DIRT AND DEBRIS AT ALL TIME IF IT CAN BE SPREAD BY TRAFFIC OR CAN ENTER THE STORM SYSTEM.
11. GRAVEL OR DIRT CURB RAMPS ARE PROHIBITED. ONLY WOOD STEP STYLE CURB RAMPS ARE ALLOWED.
12. UPON COMPLETION OF SITE RESTORATION AND APPROVAL FROM THE CITY OF MILWAUKIE ENGINEERING DIRECTOR, ALL TEMPORARY EROSION CONTROL MEASURES MAY BE REMOVED.
13. DRAINAGE FROM SPRINGS OR GROUNDWATER MUST BE ADDRESSED DURING CONSTRUCTION BY THE CONTRACTOR. DISCHARGE FROM GROUNDWATER ENCOUNTERED ON THE SITE MUST BE CLEAN OF SEDIMENT OR POLLUTANTS.
14. AREA SUBJECT TO WIND EROSION SHALL USE APPROPRIATE DUST CONTROL MEASURES INCLUDING THE APPLICATION OF A FINE SPRAY OF WATER, PLASTIC SHEETING, STRAW MULCH, OR OTHER APPROVED MEASURE.
15. DATES OF IMPLEMENTATION OF WET WEATHER MEASURES ARE OCTOBER 1ST TO APRIL 30TH.
16. MATERIAL SHALL NOT BE STOCKPILED ON PUBLIC STREETS OR IN THE RIGHT-OF-WAY LONGER THAN IMMEDIATE USE.
17. PRIOR TO ANY LAND DISTURBING ACTIVITIES, THE BOUNDARIES OF THE CLEARING LIMITS, VEGETATED BUFFERS, AND ANY SENSITIVE AREAS SHOWN ON THIS PLAN SHALL BE CLEARLY DELINEATED IN THE FIELD. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE IS PERMITTED BEYOND THE CLEARING LIMITS. THE CONTRACTOR MUST MAINTAIN THE DELINEATION FOR THE DURATION OF THE PROJECT. NOTE: VEGETATED CORRIDORS TO BE DELINEATED WITH ORANGE CONSTRUCTION FENCE OR APPROVED EQUAL.
18. PRIOR TO ANY LAND DISTURBING ACTIVITIES, THE BMP's THAT MUST BE INSTALLED ARE A GRAVEL CONSTRUCTION ENTRANCE, PERIMETER SEDIMENT CONTROL, AND INLET PROTECTION AS SPECIFIED. THESE BMP's MUST BE MAINTAINED FOR THE DURATION OF THE PROJECT.
19. IF VEGETATIVE SEED MIXES ARE SPECIFIED, SEEDING MUST TAKE PLACE NO LATER THAT SEPTEMBER 1; THE TYPE AND PERCENTAGES OF SEED IN THE MIX MUST BE IDENTIFIED ON THE PLANS WITH AN ESTABLISHED HEALTHY STAND OF GRASS OF 80% COVERAGE BY OCTOBER 1ST.
20. ALL PUMPING OF SEDIMENT LADEN WATER SHALL BE DISCHARGED OVER AN UNDISTURBED, PREFERABLY VEGETATED AREA, AND THROUGH A SEDIMENT CONTROL BMP i.e. (FILTER BAG).
21. THE ESC PLAN MUST BE KEPT ON SITE. ALL MEASURES SHOWN ON THE PLAN MUST BE INSTALLED PROPERLY TO ENSURE THAT SEDIMENT OR SEDIMENT LADEN WATER DOES NOT ENTER A SURFACE WATER SYSTEM, ROADWAY, OR OTHER PROPERTIES.

PRE-CONSTRUCTION, CLEARING AND DEMOLITION NOTES:

1. ALL BASE ESC MEASURES MUST BE IN PLACE, FUNCTIONAL, AND APPROVED IN AN INITIAL INSPECTION, PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.
2. SEDIMENT BARRIERS APPROVED FOR USE INCLUDE (LIST APPROVED BARRIERS).
3. SENSITIVE RESOURCES INCLUDING, BUT NOT LIMITED TO, TREES, WETLANDS, AND RIPARIAN PROTECTION AREAS SHALL BE CLEARLY DELINEATED WITH ORANGE CONSTRUCTION FENCING OR CHAIN LINK FENCING IN A MANNER THAT IS CLEARLY VISIBLE TO ANYONE I THE AREA. NO ACTIVITIES ARE PERMITTED TO OCCUR BEYOND THE CONSTRUCTION BARRIER.
4. CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES INCLUDING, BUT NOT LIMITED TO, (LIST APPROVED MEASURES), MAY BE REQUIRED TO INSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
5. RUN-ON AND RUN-OFF CONTROLS SHALL BE IN PLACE AND FUNCTIONING PRIOR TO BEGINNING SUBSTANTIAL CONSTRUCTION ACTIVITIES. RUN-ON AND RUN-OFF CONTROL MEASURES INCLUDE: (LIST CONTROL MEASURES).
6. ITEMS NOTED FOR REMOVAL OR DEMOLITION TO BE DISPOSED OF IN A MANNER THAT MEETS APPLICABLE STATE AND FEDERAL REGULATIONS.
7. INSTALLATION AND APPROVAL OF ALL TREE PROTECTION AND ESC MEASURES ARE NEEDED BEFORE CONSTRUCTION BEGINS.
8. UNDERGROUND AND OVERHEAD POWER LINES AND FRANCHISE UTILITIES ARE LOCATED WITHIN RIGHT-OF-WAY ADJACENT TO THE PROJECT SITE. COORDINATE WORK WITH THE UTILITY COMPANY.

TREE REMOVAL AND PRESERVATION NOTES:

1. CONTRACTOR SHALL INSTALL 4' HIGH ORANGE TREE PROTECTION FENCING AROUND ALL TREES TO REMAIN ON SITE DURING CONSTRUCTION. FENCING SHALL BE PLACED AT THE TREE DRIP LINE. COORDINATE TREE PROTECTION FENCING LOCATION WITH PROJECT ARBORIST.
2. INSTALLATION AND APPROVAL OF ALL TREE PROTECTION AND ESC MEASURES ARE NEEDED BEFORE CONSTRUCTION BEGINS.
3. TREE REMOVAL OPERATIONS SHALL NOT DAMAGE TREES TO BE SAVED.
4. ALL DEMOLITION AND TREE REMOVAL WITHIN THE TREE PROTECTION FENCING SHALL BE COMPLETED UNDER THE SUPERVISION OF THE PROJECT ARBORIST. NO REMOVAL OF ANY STRUCTURES OR TREES SHALL BE PERFORMED WITHOUT THE PROJECT ARBORIST ON SITE.

GRADING, STREET, AND UTILITY ESC CONSTRUCTION NOTES:

1. SEED USE FOR TEMPORARY OR PERMANENT SEEDING SHALL BE COMPOSED OF ONE OF THE FOLLOWING MIXTURES, UNLESS OTHERWISE AUTHORIZED:
   - A. VEGETATED CORRIDOR AREAS REQUIRE NATIVE SEED MIXES.
   - B. DWARF GRASS MIX (MIN 100 LB/AC)
     1. DWARF PERENNIAL RYEGRASS (80% BY WEIGHT)
     2. CREEPING RED FESCUE (20% BY WEIGHT)
   - C. STANDARD HEIGHT GRASS MIX (MIN 100 LB/AC)
     1. ANNUAL RYEGRASS (40% BY WEIGHT)
     2. TURF-TYPE FESCUE (60% BY WEIGHT)
2. SLOPE TO RECEIVE TEMPORARY OR PERMANENT SEEDING SHALL HAVE THE SURFACE ROUGHENED BY MEANS OF TRACK-WALKING OR THE USE OF OTHER APPROVED IMPLEMENTS. SURFACE ROUGHENING IMPROVES SEED BEDDING AND REDUCES RUN-OFF VELOCITY.
3. LONG TERM SLOPE STABILIZATION MEASURES SHALL INCLUDE THE ESTABLISHMENT OF PERMANENT VEGETATIVE COVER VIA HYDROSEEDING TO 2000 LBS/ACRES WITH AN ADDED TACKIFIER.
4. TEMPORARY SLOPE STABILIZATION MEASURES SHALL INCLUDE: COVERING EXPOSED SOIL WITH PLASTIC SHEETING, STRAW MULCHING, WOOD CHIPS, OR OTHER APPROVED MEASURES.
5. STOCKPILED SOIL OR STRIPPINGS SHALL BE PLACED IN A STABLE LOCATION AND CONFIGURATION. STOCKPILES SHALL BE COVERED WITH PLASTIC SHEETING OR STRAW MULCH. SEDIMENT FENCE IS REQUIRED AROUND THE PERIMETER OF THE STOCKPILE.
6. EXPOSED CUT OR FILL AREAS SHALL BE STABILIZED THROUGH THE USE OF TEMPORARY SEEDING AND MULCHING, EROSION CONTROL BLANKETS OR MATS, MID-SLOPE SEDIMENT FENCES OR WATTLES, OR OTHER APPROPRIATE MEASURES. SLOPES EXCEEDING 25% MAY REQUIRE ADDITIONAL EROSION CONTROL MEASURES.
7. AREAS SUBJECT TO WIND EROSION SHALL USE APPROPRIATE DUST CONTROL MEASURES INCLUDING THE APPLICATION OF A FINE SPRAY OF WATER, PLASTIC SHEETING, STRAW MULCHING, OR OTHER APPROVED MEASURES.
8. CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES INCLUDING, BUT NOT LIMITED TO, TIRE WASHES, STREET SWEEPING, AND VACUUMING MAY BE REQUIRED TO INSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
9. ACTIVE INLETS TO STORM WATER SYSTEMS SHALL BE PROTECTED THROUGH THE USE OF APPROVED INLET PROTECTION MEASURES. ALL INLET PROTECTION MEASURES ARE TO BE REGULARLY INSPECTED AND MAINTAINED AS NEEDED.
10. SATURATED MATERIALS THAT ARE HAULED OFF-SITE MUST BE TRANSPORTED IN WATER-TIGHT TRUCKS TO ELIMINATE SPILLAGE OF SEDIMENT AND SEDIMENT-LADEN WATER.
11. AN AREA SHALL BE PROVIDED FOR THE WASHING OUT OF CONCRETE TRUCKS IN A LOCATION THAT DOES NOT PROVIDE RUN-OFF THAT CAN ENTER THE STORM WATER SYSTEM. IF THE CONCRETE WASH-OUT AREA CAN NOT BE CONSTRUCTED GREATER THAN 50 FEET FROM ANY DISCHARGE POINT, SECONDARY MEASURES SUCH AS BERMS OR TEMPORARY SETTLING PITS MAY BE REQUIRED. THE WASH-OUT SHALL BE LOCATED WITHIN SIX FEET OF TRUCK ACCESS AND BE CLEANED WHEN IT REACHES 50% OF CAPACITY.
12. SWEEPING FROM EXPOSED AGGREGATE CONCRETE SHALL NOT BE TRANSFERRED TO THE STORM WATER SYSTEM. SWEEPINGS SHALL BE PICKED UP AND DISPOSED IN THE TRASH.
13. AVOID PAVING IN WET WEATHER WHEN PAVING CHEMICALS CAN RUN-OFF INTO THE STORM WATER SYSTEM.
14. USE BMPs SUCH AS CHECK-DAMS, BERMS, AND INLET PROTECTION TO PREVENT RUN-OFF FROM REACHING DISCHARGE POINTS.
15. COVER CATCH BASINS, MANHOLES, AND OTHER DISCHARGE POINTS WHEN APPLYING SEAL COAT, TACK COAT, ETC. TO PREVENT INTRODUCING THESE MATERIALS TO THE STORM WATER SYSTEM.
16. CONTRACTOR TO PROTECT UICs AND DRYWELLS DURING CONSTRUCTION TO PREVENT SEDIMENT FROM ENTERING STRUCTURES.
17. AFTER OCTOBER 1ST, COVER AREAS AT FINAL GRADE WITH SEED/STRAW MULCH AT 4000 LBS/ACRE.

UTILITY STATEMENT:

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN MAPPED FROM FIELD SURVEY INFORMATION, OBSERVED ABOUT GROUND EVIDENCE AND GROUND MARKINGS BY OTHERS, AND EXISTING DRAWINGS SUPPLIED BY OTHERS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED BUT DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

811 Know what's below. Call before you dig.

NO.	DATE	BY	REVISIONS
2	3/12/18	SLM	UPDATE DETAILS
1	11/16/17	SLM	APPROVED BID DRAWINGS

SLM	7/30/2017	DESIGNED
SLM	9/15/2017	DRAFTED
JEG	11/15/2017	CHECKED
CLE	3/12/2018	APPROVED

REGISTERED PROFESSIONAL ENGINEER 84366PE OREGON MAY 22, 2015 SHERI LYNN MARKWARDT
EXPIRES: DECEMBER 31, 2018

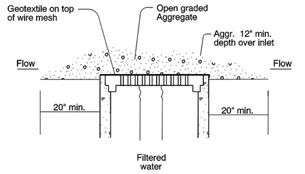
CITY OF MILWAUKIE
6101 SE JOHNSON CREEK BLVD.
MILWAUKIE, OR 97206
PHONE: 503-786-7600
FAX: 503-774-8236

2017 CLAY SEWER PIPE REPLACEMENT

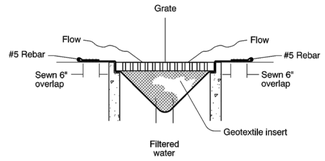
EROSION CONTROL NOTES

PROJECT NO.:	CONTRACT NO.:	DATE:	SHEET NO.:
2017-X10		11/16/2017	EC02

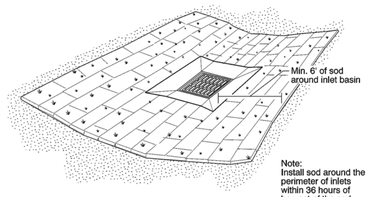
rd1010.dgn 06-01-2017



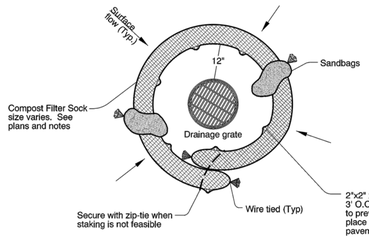
GEOTEXTILE/WIRE MESH/AGGREGATE - TYPE 2



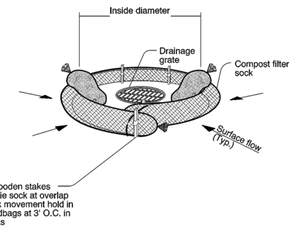
PREFABRICATED FILTER INSERT - TYPE 3



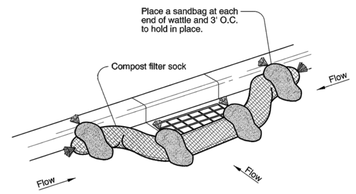
SOD PROTECTION - TYPE 6



AREA DRAIN PLAN



AREA DRAIN PERSPECTIVE VIEW



CURB INLET PERSPECTIVE VIEW

COMPOST FILTER SOCK OR WATTLE - TYPE 7

* Use sandbags to hold wattles in place. Sandbags are not necessary for compost filter socks

Notes:

Type 2 - Geotextile/wire mesh/aggregate
Place the wire mesh over the grate.
Place sediment fence geotextile over the wire mesh and perimeter area around structure.
Install aggregate over the geotextile fabric.

Type 3 - Prefabricated filter inserts
Install prefabricated filter inserts according to the plans.
Special provisions, and manufacturer recommendations.
Prefabricated inserts with provisions for overflow are allowed only when accompanied by additional BMP to prevent the potential of sediments entering project storm systems.
Field fabricated inserts are not allowed.

Type 7 - Compost filter sock
Drive 2"X2" wood stakes a minimum of 6" into ground and flush with the top of the sock.
Overlap ends of sock per manufacturers recommendations (1' min, 3' max).
Use 8" to 12" dia sock on curbside in traffic areas.
Use 12" to 18" dia sock in non-traffic areas or areas where the larger sock can be used safely.

CALC. BOOK NO. 6402, 6406, 6407 — BASELINE REPORT DATE January 2016

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS

INLET PROTECTION TYPE 2, 3, 6 AND 7

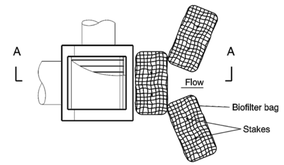
2018

DATE	REVISION DESCRIPTION

RD1010

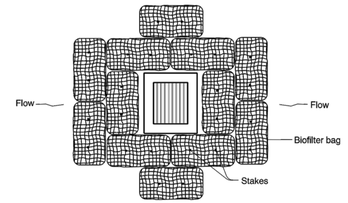
Effective Date: December 1, 2017 - May 31, 2018 RD1010

rd1015.dgn 06-01-2017



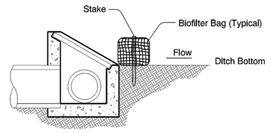
PLAN

DITCH INLET



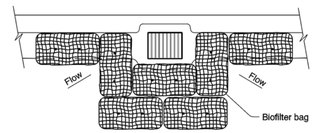
PLAN

AREA DRAIN



SECTION A-A

DITCH INLET



PLAN

CATCH BASIN

BIOFILTER BAGS - TYPE 4

Note:

1. Stake biofilter bags with 2"X2" wood stakes, use a minimum 2 stakes per bag. Drive stakes a minimum of 6" into the ground and flush with the top of the bags.
2. Omit stakes when bags are placed on pavement surface.
3. Overlap all bag joints 6".

CALC. BOOK NO. 6402, 6406, 6407 — BASELINE REPORT DATE January 2016

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

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OREGON STANDARD DRAWINGS

INLET PROTECTION TYPE 4

2018

DATE	REVISION DESCRIPTION

RD1015

Effective Date: December 1, 2017 - May 31, 2018 RD1015

811 Know what's below. Call before you dig.

NO.	DATE	BY	REVISIONS
2	3/12/18	SLM	UPDATE DETAILS
1	11/16/17	SLM	APPROVED BID DRAWINGS

SLM	7/30/2017	DESIGNED
SLM	9/15/2017	DRAFTED
JEG	11/15/2017	CHECKED
CLE	3/12/2018	APPROVED

DATE

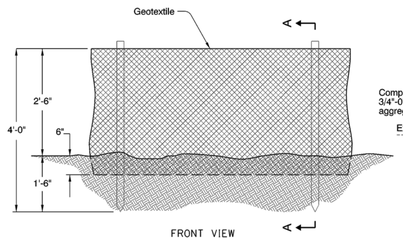
REGISTERED PROFESSIONAL ENGINEER
84366PE
OREGON
MAY 22, 2015
SHERI LYNN MARKWARDT
EXPIRES: DECEMBER 31, 2018

CITY OF MILWAUKIE
6101 SE JOHNSON CREEK BLVD.
MILWAUKIE, OR 97206
PHONE: 503-786-7600
FAX: 503-774-8236

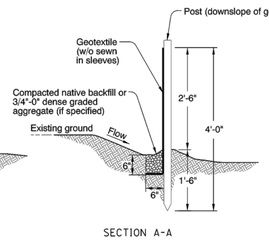
2017 CLAY SEWER PIPE REPLACEMENT

EROSION CONTROL DETAILS

PROJECT NO.:	CONTRACT NO.:	DATE:	SHEET NO.:
2017-X10		11/16/2017	EC03

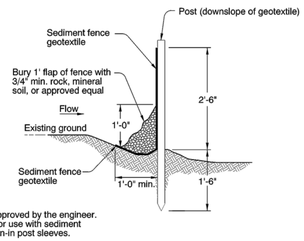


FRONT VIEW



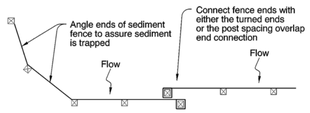
SECTION A-A

SEDIMENT FENCE AND GEOTEXTILE BURY DETAIL - TYPE 1

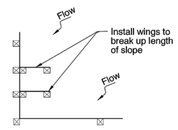


NOTES:
1. Use must be approved by the engineer.
2. Not approved for use with sediment fencing with sewn-in post sleeves.

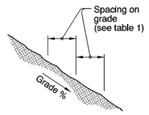
ALTERNATE SEDIMENT FENCE W/O TRENCHING - TYPE 2



PLAN VIEW



TERMINATION AT CORNER OR PROPERTY LINE



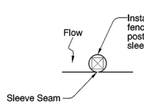
NOTES:
1. Use 2" X 2" wood fence posts.
2. Posts to be installed on downhill side of sediment fence geotextile. Position posts to prevent separation from geotextile.
3. Compact filter fabric trench backfill and soil on uphill side of fence.
4. Locate fence no closer than three feet to the toe of a slope.
5. Wing spacing shall comply with table 1.

TABLE 1
FENCE SPACING
FOR GENERAL APPLICATION

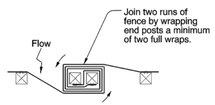
INSTALL PARALLEL ALONG CONTOURS AS FOLLOWS	
GRADE	MAXIMUM SPACING ON GRADE
Grade < 10%	300'
10% ≤ Grade < 15%	150'
15% ≤ Grade < 20%	100'
20% ≤ Grade < 30%	50'
30% ≤ Grade	25'

TABLE 2

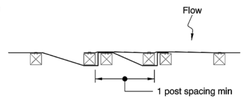
POST SPACING	
6'	Sediment Fence with Geotextile elongation less than 50%
4'	Sediment Fence with Geotextile elongation 50% or more



GEOTEXTILE WITH POST SLEEVES



TURNED ENDS CONNECTION



POST SPACING OVERLAP CONNECTION

GEOTEXTILE END CONNECTIONS

CALC. BOOK NO. 6403, 6404, 6405

BASELINE REPORT DATE November 2017

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS

SEDIMENT FENCE

2018

DATE	REVISION DESCRIPTION

RD1040

Effective Date: December 1, 2017 - May 31, 2018

RD1040

rd1040.dgn 11-08-2017

NO.	DATE	BY	REVISIONS
2	3/12/18	SLM	UPDATE DETAILS
1	11/16/17	SLM	APPROVED BID DRAWINGS

SLM	DESIGNED	7/30/2017 DATE
SLM	DRAFTED	9/15/2017 DATE
JEG	CHECKED	11/15/2017 DATE
CLE	APPROVED	3/12/2018 DATE

REGISTERED PROFESSIONAL ENGINEER
84366PE
OREGON
MAY 22, 2015
SHERI LYNN MARKWARDT
EXPIRES: DECEMBER 31, 2018

CITY OF MILWAUKIE
6101 SE JOHNSON CREEK BLVD.
MILWAUKIE, OR 97206
PHONE: 503-786-7600
FAX: 503-774-8236

2017 CLAY SEWER PIPE REPLACEMENT

PROJECT NO.:	CONTRACT NO.:	DATE:	SHEET NO.:
2017-X10		11/16/2017	

811 Know what's below. Call before you dig.

6.8.

Meek Street Storm Pipe ROW Acquisition

CITY OF MILWAUKIE

COUNCIL **RESOLUTION No.** 7-2018

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF MILWAUKIE, OREGON, AUTHORIZING THE ACQUISITION OF REAL PROPERTY FOR THE CONSTRUCTION OF THE MEEK STREET STORM SYSTEM.

WHEREAS, the Stormwater Master Plan identified the Meek Street system as a priority project to improve the City's storm water infrastructure; and

WHEREAS, the acquisition of real property is required to construct the project; and

WHEREAS, real property transaction services were authorized with resolution 86-2016; and

WHEREAS, AKS Engineering and Forestry LLC has completed the identification and appraisal of the required properties for the project; and

WHEREAS, the City of Milwaukie possesses sufficient funds to fulfill the requirements to acquire the subject properties within the current budget.

Now, Therefore, be it Resolved that the Engineering Director of the City of Milwaukie is authorized to serve as the City's designated agent to acquire the required real property for the construction of the Meek Street Storm System Improvements.

Introduced and adopted by the City Council on 2/6/18.

This resolution is effective on 2/6/18.

Mark Gamba, Mayor

ATTEST:

Scott S. Stauffer, City Recorder

APPROVED AS TO FORM:
Jordan Ramis PC

City Attorney

6.9.

Washington Street Storm System Replacement and Green Street

Washington Street Storm Upgrades & Green Streets

Phase 1 Washington Street Storm

The new stormwater pipeline will take place along SE Washington Street and SE 21st Avenue from the west side of the TriMet line to the outlet at Kellogg Lake across from the post office. The project will include pipe capacity upgrades as well as stormwater quality facilities. During construction of the stormwater pipeline there will be lane closures and possible night work.

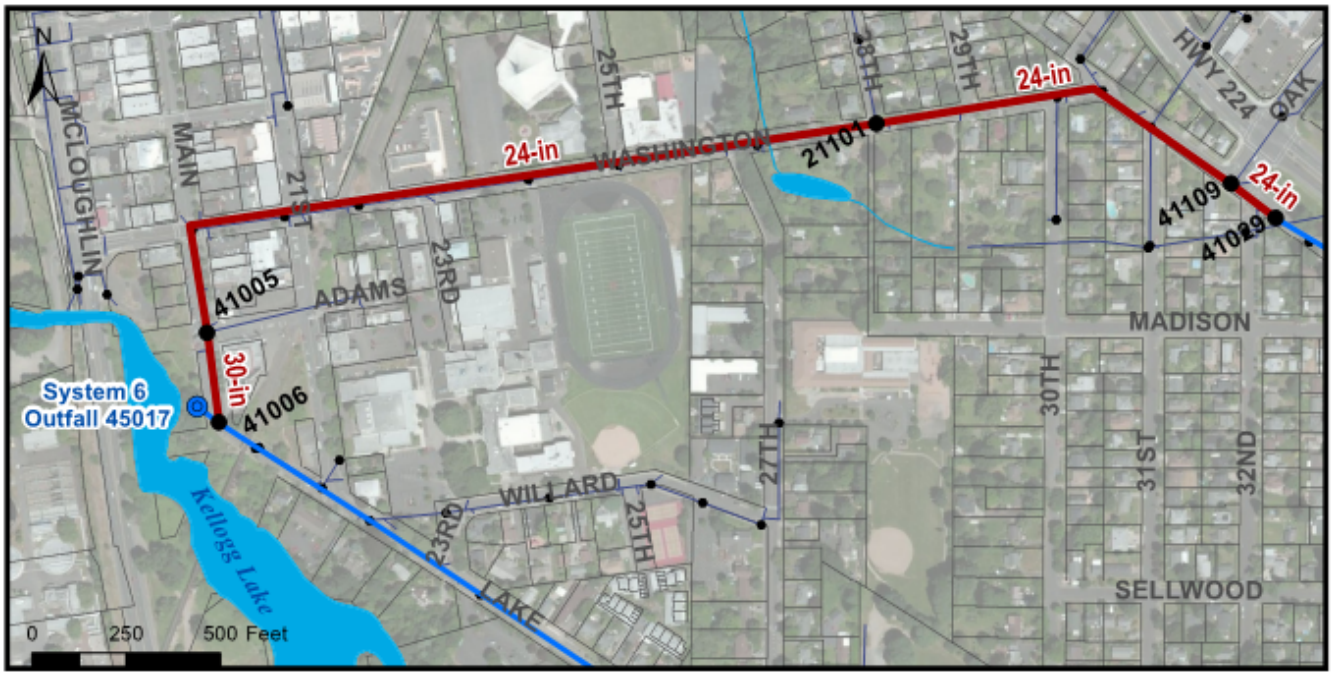
Phase 2 Washington Street Storm Upgrades & Green Streets

This project takes place along SE Washington Street from the east side of the TriMet line to SE 32nd Avenue.

The project will include pipe capacity upgrades and storm water quality facilities.

Expected construction start: 2024.

Capital Project Fact Sheet — Priority Ranking No. 12
Project Name: Washington Street



Project Name	Washington Street
Project ID	6-1
Modeled System No.	6
Associated Subbasins	KC10, KC30, KC40, KC50, KC60
Associated Modeled Pipes/Conduits	KC30b (41029_41109), KC30a (41109_21101) KC10b (21101_41005), KC10a (41105_41006)
Objective(s) Addressed	Flood Control – Pipe Capacity Deficiency

Project Description

The 21-in pipe KC10a on Main Street near Kellogg Lake and the 18-in pipes KC10b and KC30a along Washington Street are under capacity, which is causing predicted flooding along Washington Street between Main Street and Hwy 224 during the 10 and 25-yr existing and future land use scenarios.

This CIP includes replacement of 239-ft of existing 21-in concrete pipe with 30-in pipe along KC10a from manhole 41005 to 41006. This CIP also includes replacement of 3,312 feet of existing 18-in concrete pipe with 24-in concrete pipe along KC10b from manhole 41109 to 41005 and KC30a from manhole 41029 to 41005.

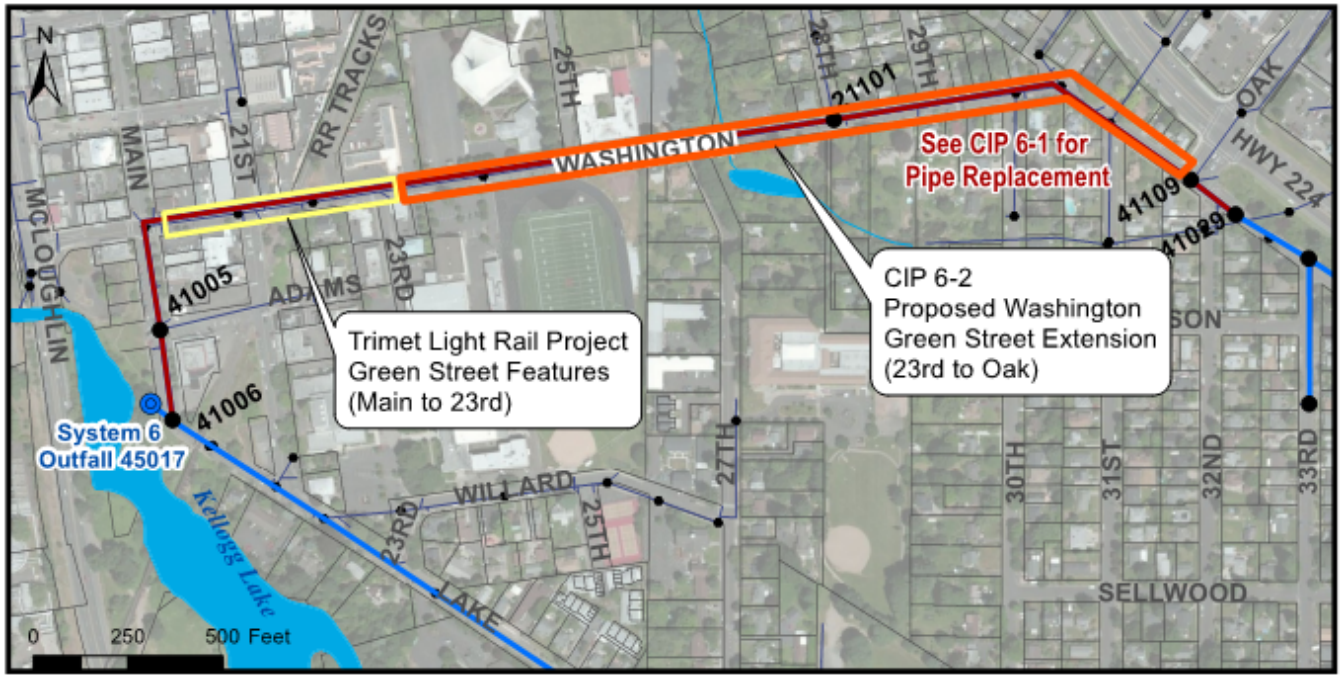
Estimated Planning Cost (2012 dollars)	
Construction Cost Sub-total (See Appendix X for details)	$1,156,400
Construction Contingency (30%)	$347,000
Sub-total	$1,503,400
Engineering and Permitting (15%)	$225,500
Construction Administration (5%)	$75,200
Capital Project Implementation Cost Total	$1,804,100
Existing to Future % Flow Increase[1]	17%

Design Assumptions

- A segment of this CIP will be installed by Trimet during the construction of the max light rail line between 21st and 25th along Washington Street. However, funding of this segment is still in progress and was included in the cost estimate for this CIP.

1. *Existing to future percent flow increase is based on the 25-year percent flow increase from the contributing drainage area between the existing and future land use scenarios. This value is used to assign a dollar value to the portion of this CIP which can be attributed to growth.*

Capital Project Fact Sheet Priority Ranking No. 12
Project Name: Washington Green Streets



Project Name	Washington Green Streets
Project ID	6-2
Modeled System No.	6
Associated Subbasins	KC30, KC40, KC50, KC60
Associated Modeled Pipes/Conduits	KC30b (41029_41109), KC30a (41109_21101) KC10b (21101_41005), KC10a (41105_41006)
Objective(s) Addressed	Water Quality

Project Description

The contributing area from Washington Street is a high pollutant load generating area. Currently, the Trimet Light Rail Project is installing green street features to provide water quality treatment from Main to 23rd along Washington Street.

This CIP includes an extension of the green street features being installed by Trimet, from 23rd to Oak along Washington Street. The installation of CIP 6-1 will involve pipe replacement and repaving a portion of Washington Street, which provides an opportunity to complete green street features while the pipe replacement construction is occuring.

Estimated Planning Cost (2012 dollars)	
Construction Cost Sub-total (See Appendix X for details)	$271,200
Construction Contingency (30%)	$81,400
Sub-total	$352,600
Engineering and Permitting (40%)	$141,100
Construction Administration (5%)	$17,600
Capital Project Implementation Cost Total	**$511,300**
Existing to Future % Flow Increase[1]	Not applicable

Design Assumptions

- The cost of this CIP may be reduced if construction is completed in conjunction with CIP 6-1. Potential efficiencies include mobilization/ demobilization, traffic control, pipe connections, and erosion control costs.

1. *Existing to future percent flow increase is based on the 25-year percent flow increase from the contributing drainage area between the existing and future land use scenarios. This value is used to assign a dollar value to the portion of this CIP which can be attributed to growth.*

6.10.

Kronberg Park Path

CITY OF MILWAUKIE

OCR USE ONLY

COUNCIL STAFF REPORT

To: Mayor and City Council
Ann Ober, City Manager

Date Written: October 3, 2018

Reviewed: Kelly Brooks, Assistant City Manager

From: Charles Eaton, Engineering Director

Subject: **Kronberg Multi-Use Path Project Update**

ACTION REQUESTED

Type brief action request statement here

HISTORY OF PRIOR ACTIONS AND DISCUSSIONS

October 20, 2015, the revised Kronberg Park Master Plan (File #CPA-2015-002) was adopted by City Council, ordinance number 2107. As listed in the master plan cost estimate, phase 1 includes the pathway and access improvements. The total estimated cost associated with phase 1 construction and fees for design and construction documentation at that time was $1,459,300.

October 4, 2016, City Council passed resolution 109-2016 that allowed the Mayor to sign an IGA between the City of Milwaukie and thODOT. The resolution also accepted funds from the ConnectOregon VI program for the construction of the path through the park in accordance with the approved master plan. The approved project budget through the ConnectOregon was $1,769,100.

September 5, 2017, staff presented two alignment options and associated costs to the City Council. Council eliminated alignment two due to the proximity to McLoughlin Blvd. City Council directed the engineering department to explore adding a curvilinear element to the alignment one elevated structure. Council indicated a preference for concurrent land use application and Willamette Greenway permit submittals. Possible funding options were discussed and were to be investigated further.

October 17, 2017, Staff presented two additional alignment options and associated costs to the City Council. Council selected alignment 4 and authorized an additional $507,900 to the project to cover cost overruns. The final path width of 10 feet was used as the basis for the cost estimates, which corresponds to City Municipal Code for Multi-Use paths.

June 5, 2018, Staff presented a high-level update on the status of the Kronberg project as part of a 2018 Construction update during the Council Work Session. In this discussion, staff highlighted the need to provide additional contingency funding to the project in advance of sending it out to bid. During adoption of the budget at the Council Regular Session on the same evening, an additional $200,000 was budgeted for the Kronberg Park Multi-Use Path.

Staff presented and City Council authorized an amendment to the IGA at the June 19, 2018 City Council meeting to request additional time and design amendments to reduce project costs and comply with Milwaukie Municipal Code (MMC).

ANALYSIS

During the final design of the project, several key issues have come up that have the potential to significantly impact the budget, timeline, and/or future liability of the City. These issues are driven in large part due to requirements being placed on the project to obtain permits required to occupy and connect to the sidewalks on the ODOT R/W. Each of the issues are described in more detail as follows:

Large Sequoia Tree

The large sequoia tree located at the southern end of the project next to McLoughlin has been determined to be a hazard tree by ODOT foresters. The City has spent considerable time and design effort to eliminate any impacts to the tree and has an arborist report that confirms the design has been successful it this regards. The tree is leaning towards McLoughlin and potentially has support issues on the side away from McLoughlin. ODOT is requiring that the tree be removed or that the City take maintenance responsibility and liability for the tree. Public Works staff has reviewed the tree and concurs with ODOT's evaluation that the tree is healthy but needs major liming to allow the tree to straighten. Public Works has no objections to taking maintenance of the tree.

South Connection to McLoughlin

ODOT is requiring reconstruction of the existing sidewalks and ADA ramps on McLoughlin at River Rd. These ramps are currently non-compliant with ODOT's new ADA standards. This requirement requires the project to update the existing sidewalk to accommodate bicycles and both bicycles and pedestrians during construction. The City proposed to close this walk and crosswalk on a limited basis (2-weeks) to accommodate the required construction. ODOT has indicated this would not be acceptable. Without this accommodation it will be necessary to close the north bound left turn lane, shift northbound through lanes west to create a safe corridor for pedestrians and bicycles to proceed on McLoughlin. None of these construction requirements are accounted for in the Connect Oregon grant or adopted budget. If City Staff cannot negotiate an alternative this will require additional funds for the project.

Hazardous Materials

ODOT has specified that, in accordance with ODOT policy, that all ODOT R/W is considered contaminated. This requirement will require all excavation within ODOT R/W be tested or removed to a approved facility. City staff does not anticipate any contaminates and has sufficient specifications to provide for this if encountered during construction. The alternative would be to delay the bidding until a Hazardous material study can be performed and approved by ODOT.

Migratory Bird Treaty Act (MBTA)

ODOT is requiring a MBTA permit within ODOT R/W as a condition of the permit. This is not a requirement of the MBT act. Staff feels the ODOT specifications are sufficient for this and that none of the regulated work is scheduled to be done during the time frame identified in the act. If City staff is unable to convince ODOT of this the project will need to be delayed until the permit can be obtained.

There has been a continuous fundamental disconnect between ODOT and City Staff on the original project concept for this Multi-use path. ODOT has been trying to apply the standards for a regional trail to the pathway, which was never the intention of the master plan or the grant application. ODOT has also failed to recognize that this is a City of Milwaukie project and the City is simply requesting permission to construct the path on ODOT R/W from Kronberg Park to the existing sidewalk on McLoughlin. Instead ODOT is approaching this project as an ODOT project and all the requirements that apply to ODOT/FHWA projects must be met to receive the permit. The project is consistent with a business requesting a permit to attach a sidewalk to an ODOT facility any requirements by ODOT should be consistent with this type of work. At this time for the City to comply with these requirements staff will require additional time and budget as none of this was anticipated or required of the Connect Oregon IGA.

BUDGET IMPACTS

To comply with these requirements City Staff will require an additional budget authorization of $500,000

Commented [CE1]: TBD

WORKLOAD IMPACTS

This work will delay bidding of the project 3 to 6 months and completion of the project to 2020.

COORDINATION, CONCURRENCE, OR DISSENT

Engineering does not feel ODOT's requirements are justified or within their authority for the project.

STAFF RECOMMENDATION

None

ALTERNATIVES

1. Direct staff to continue to work towards a solution that protects the City's interest and falls within the current budget authorization.
2. Accept ODOT's requirements and direct staff to proceed with additional contracting and design requirements.

ATTACHMENTS

None

6.10.1.

Kronberg Park Master Plan

CITY OF MILWAUKIE & NORTH CLACKAMAS PARKS AND RECREATION DISTRICT

ROBERT KRONBERG NATURE PARK MASTER PLAN

ADOPTED CITY OF MILWAUKIE ORD #2107 OCTOBER 20, 2015,
EFFECTIVE NOVEMBER 19, 2015

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ACKNOWLEDGEMENTS

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Jason Rice, Engineering Director

SPECIAL THANKS TO:

Residents of NCPRD and the City of Milwaukie who contributed to this master planning process.

For more Information, contact:
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ROBERT KRONBERG NATURE PARK MASTER PLAN

INTRODUCTION

Robert Kronberg Park is an undeveloped natural area park located just south of downtown Milwaukie, Oregon. The property is owned by the City of Milwaukie and maintained by North Clackamas Parks and Recreation District (NCPRD). The central location of the park site, intrinsic natural resources, potential for improvements, and citizen interest and investment in the site all provide an excellent opportunity for the creation of a truly unique and important natural area park close to downtown Milwaukie. This Master Plan will provide direction for future improvements and restoration efforts, will help establish a framework for visitor use and appropriate activities within the park, and will provide a basis for securing funding for park development.

Vicinity Map

MISSION STATEMENT

The purpose of this Master Plan process is two-fold: first, to create a linear park and link between downtown Milwaukie and the Island Station Neighborhood; and second, to preserve and restore the vital habitats in this natural area park.

This Master Plan community involvement process confirmed that Robert Kronberg Park is a Natural Area, as defined within the NCPRD Master Plan: “Natural areas are minimally developed and primarily intended to conserve land for environmental benefit. Many of the sites conserve habitat for wildlife...passive recreation uses are secondary to protecting natural resources, but natural areas may include picnic facilities, trails, interpretive signage, and view points.”

SITE DESCRIPTION

SITE HISTORY[†] AND NATURAL ELEMENTS

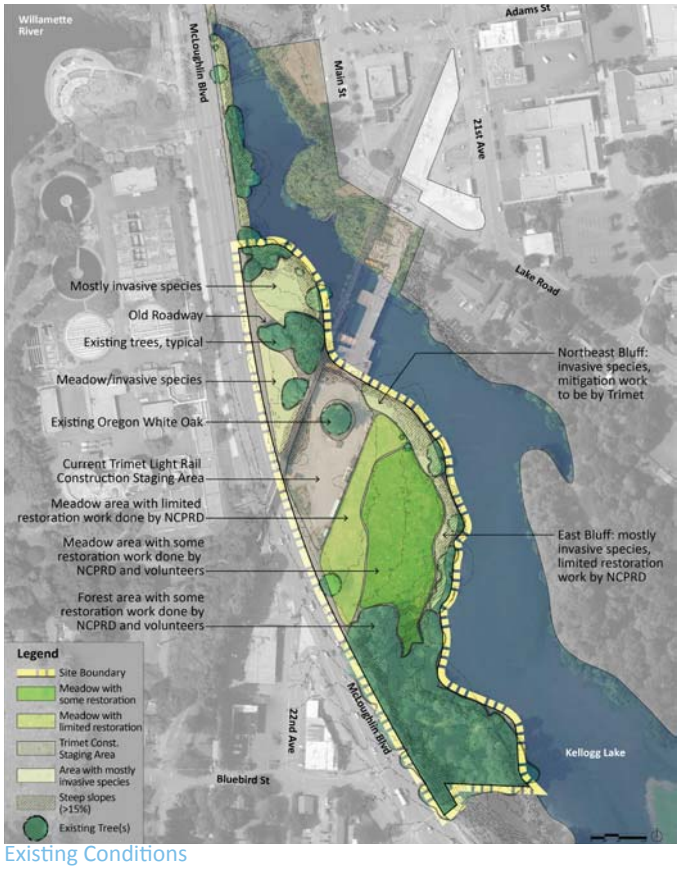
Photo of Kellogg Lake, early 20th century

Prior to American settlement, the park site contained a variety of upland, wetland and estuary habitats where Kellogg Creek met the Willamette River. Habitat areas in the project site included upland mixed Oregon white oak and Douglas fir woodland, Oregon ash and cottonwood riparian floodplain forest, and creek and wetland habitats. The creek provided habitat for anadromous and freshwater fish species, waterfowl, beaver, and other animals. Kellogg Lake was created in 1858 when the creek was dammed to power a flour mill. The original dam was replaced with a concrete dam in the 1930's when McLoughlin Boulevard was widened to a four-lane highway.

The lake had some recreational and scenic appeal in the early 1900's, but it deteriorated beginning in the 1950's as some of the properties on the lake were filled with concrete, gravel, rock, and other fill. The extent and makeup of the fill at the site is unknown and may impact future development. There has also been significant sedimentation of the lakebed; a 2002 Army Corps of Engineers study estimated that the original creek bed is now covered by 17,500 cubic yards of contaminated sediment.

At present, all of the existing habitats in the site have all been classified as habitats in decline or of concern within state and regional conservation strategies. Each type of habitat is currently in degraded condition within the site area, due in part to the neglect noted above but also including widespread colonization of the site by invasive plant species. There have also been issues with transients camping on site, illegal dumping, and vandalism.

In the 1970's, citizen groups successfully lobbied for preservation of the area around the lake as a natural area. These efforts took another step forward in 1991 when Robert and Dena Kronberg deeded three properties to the City with the understanding that the properties would be used to create a park named after Robert Kronberg. More cohesive restoration efforts become possible when the City purchased three additional properties adjacent to the lake. Restoration of the park site above the waterline began in earnest in 2008 with work by NCPRD staff, adjacent landowners, and other volunteers. These restoration activities included invasive species control, trash removal, and planting events. These activities, along with increased patrols by the Milwaukie Police Department, have helped to ameliorate some of the problems affecting the site. The City and Wildlands have also begun planning for the future removal of the Kellogg dam and restoration of the creek.



Existing Conditions

[†]Site history from An Oral History of Kellogg Lake, City of Milwaukie, 2010: http://www.milwaukieoregon.gov/sites/default/files/fileattachments/oralhistory.pdf

SITE DESCRIPTION AND EXISTING CONDITIONS

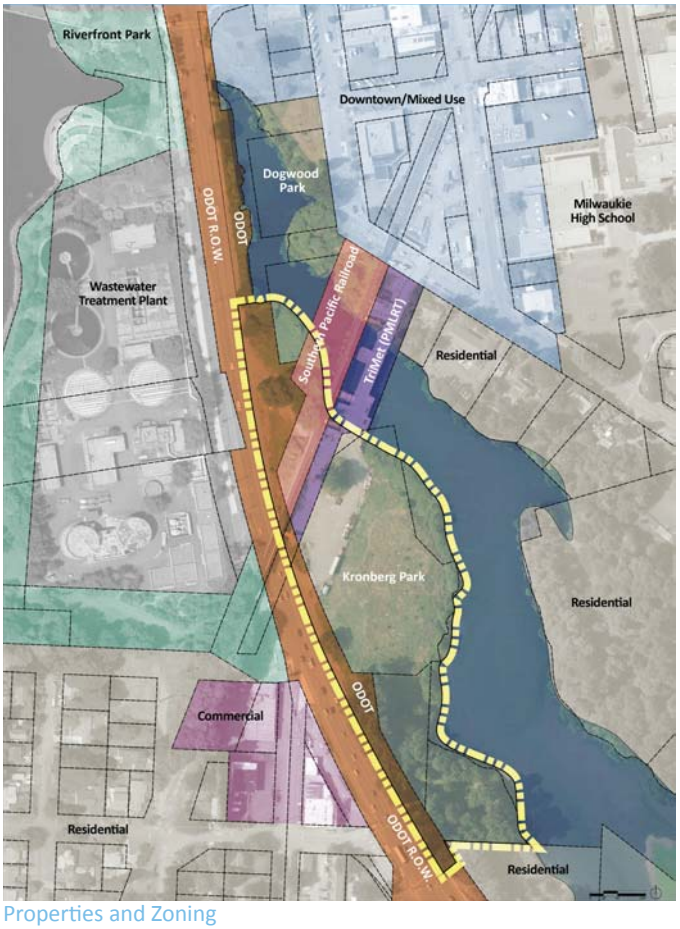
Site Aerial and Property Map

The park site is bounded on the west side by McLoughlin Boulevard, on the east and north sides by Kellogg Lake, and on the south side by private residential property. The site is also bisected by the Union Pacific/Portland-Western Railroad (UPRR) trestle and the TriMet Portland-Milwaukie light rail line (PMLRT). The site is composed of six parcels which are owned by the City of Milwaukie and are zoned as Downtown Open Space (DOS): Tax Assessor Map 11E36CB Lots 2800, 2801, 3000, 3100, 3300, and 4500. The six City-owned parcels total 6.48 acres; approximately 2 acres is currently covered by Kellogg Lake, leaving about 4.5 acres of land to be planned as part of this process. The site also includes properties and right-of-ways which are owned by Oregon Department of Transportation (ODOT), TriMet, and Union Pacific/Portland-Western Railroad, respectively. The northernmost parcel (lot 2801) is separated from the rest of the park properties by the railroad and TriMet properties.

The three parcels (4.75 acres) that make up the central part of the site were deeded to the City by Robert and Dena Kronberg in 1991. Of the three Kronberg-deeded properties, the largest (lot 3100) makes up the central part of the site and is primarily open meadow with some existing trees, including a large Oregon white oak and many small trees which have been planted as part of habitat restoration efforts over the last ten years. Lot 2800 is mostly covered by the lake, and the remaining portions are generally steep hillside with varying plant types and conditions. Lot 3000 is a very small triangular parcel adjacent to the TriMet property which is primarily steep hillside, most of which will be replanted as part of TriMet habitat mitigation requirements.

The two lots on the south end of the park site (lots 3300 and 4500, 1.25 acres) are wooded areas that are as much as 20 feet lower than both the central part of the site and McLoughlin Boulevard. This is the only part of the site that currently allows direct access to the lake. There is also an unimproved dirt trail which was blocked by NCPRD to limit illegal dumping on the site. NCPRD has also done restoration and cleanup work in this area over the last ten years, including removal of trash and invasive species and planting of native species.

The last parcel (lot 2801, 0.5 acres) is located on the north side of the railroad trestle and was purchased with Metro local share funds in 1998; according to the IGA with Metro, this parcel must be used for open space. The parcel is bisected by the lake, with steep



Properties and Zoning

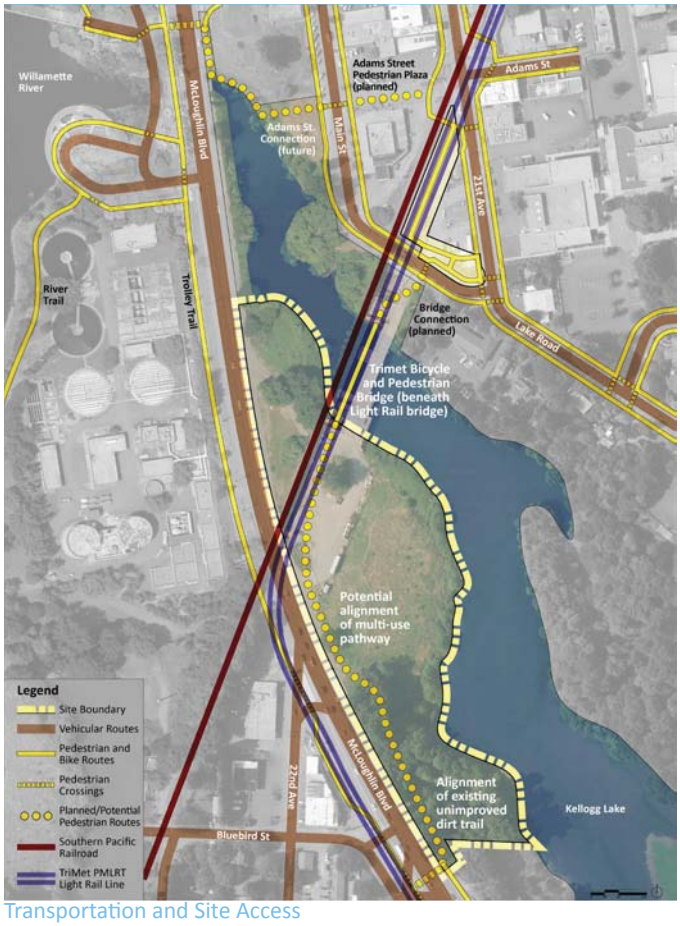
hillsides on both sides of the lake; the south side is mostly invasive plants, while the north side is a highly-disturbed wooded hillside that is part of Dogwood Park. Given the physical separation of the northern part of lot 2801 from the rest of the site and the proximity to Dogwood Park, NCPRD staff will not consider this portion of the property as part of Kronberg Park for the purposes of this Master Plan.

The portion of the park property currently beneath Kellogg Lake is planned to be restored as part of a separate creek and wetlands restoration project that will be developed by Wildlands for the City. The possibility for dam removal and improvement of Kellogg Creek was considered as part of this plan project process. The Robert Kronberg Natural Area Master Plan is designed to coexist with these future improvements regardless of when these future improvements occur. The land below the current lake would be restored as a riparian zone and not developed further.

Existing Sequoia at the south end of the site

SITE ACCESS

Access to the site is very limited. There is no formal vehicular access, although there is currently a construction entrance used by TriMet for the PMLRT construction on the south side of the railroad trestle. There is also an ODOT access and a TriMet/UPRR permanent access easement on the north side of the railroad trestle, but use of this access point is currently limited to emergency and maintenance vehicles. There is currently on-street parking north of the park on the other side of Kellogg Lake and to the southwest of the park on the other side of McLoughlin Blvd. On-street ADA public parking spaces could be provided in those areas in the future to provide ADA access for park users. Parking is anticipated to be limited in and around the park into the future and there are no plans to add parking as a part of this future park project.



Transportation and Site Access

There is currently no direct pedestrian access to the site, in part because there is not an existing sidewalk on the east side of McLoughlin adjacent to the park. The shoulder/bike lane on McLoughlin is occasionally used by pedestrians as a route to downtown, but it is not a safe route for walking. There are two potential pedestrian access points to the site. At the south end of the site, a curb-tight sidewalk on the east side of McLoughlin Boulevard meets a crosswalk that connects to River Road, Bluebird Street, and the Trolley Trail on the west side of McLoughlin. At present, the sidewalk does not continue north of that intersection, and direct connection to the site is inhibited to the north and east of the crosswalk by a guardrail, a steep embankment, and many existing trees, including a very large mature sequoia directly north of the sidewalk.

On the north side of the main part of the park site, a bicycle-pedestrian bridge was installed beneath the light rail viaduct and over Kellogg Lake as part of the Portland-Milwaukie light rail line work which will eventually connect to downtown Milwaukie. However, there is currently no path connection at either end of the bridge; once the connections are made at both ends of the bridge, it will function as the north entrance

to the future park. There is currently no funding or timetable for the completion of this work. There is also an existing underpass beneath the railroad trestle which could potentially allow access to the north parcel of the site, but due to ODOT, TriMet, and Railroad restrictions, it cannot currently be used as an access point and is unlikely to be available for use in the foreseeable future.

CONSTRAINTS TO PARK DEVELOPMENT

Regulatory Constraints

There are a number of local, state, and federal regulations that currently apply to the site. The restrictions noted here are current as of 2015, but may change in the future. Future park development should refer to current standards. A summary of these regulations are as follows.

The entire site is within the Willamette Greenway Overlay Zone (City of Milwaukie Code Chapter 19.401). Significant portions of the site are also covered by Natural Resource Overlay Zones (City of Milwaukie Code Chapter 19.402) that designates Water Quality Resource Areas (WQR) and Habitat Conservation Areas (HCA). Portions of the site also are within the FEMA-designated 100-year flood zone, so any improvements within these areas must comply with the requirements of City of Milwaukie Code Chapter 18.04 – Flood Hazard Areas.

Water Quality Resource and Habitat Conservation Areas

Any development which impacts the lake itself will require permits from Oregon Department of State Lands, the U.S. Army Corps of Engineers, and potentially the Oregon Department of Environmental Quality. Any habitat restoration work should be coordinated with the Oregon Department of Fish and Wildlife, planned Kellogg Creek restoration work by Wildlands, and related work done by other groups (e.g., the Portland Harbor Draft Restoration Plan produced by the Portland Harbor National Trustee Council).

Another consideration is that any park improvements should be planned to avoid significant grading, particularly excavation in the central part of the site where the majority of the concrete and rubble fill was placed. Disturbance of these materials may trigger additional mitigation or remediation.


TriMet pedestrian bridge at north end of the site

Restrictions to Site Access

In addition to regulatory restrictions, there are limitations to park development that are governed by the agencies which control the right-of-ways and properties adjacent to park property. Access to the site will need to be coordinated with ODOT, TriMet and/or Union Pacific/Portland and Western Railroad. Any park improvements on adjacent properties, including planting and maintenance, will also require an Intergovernmental Agreement (IGA) with the agency or organization that owns the property. A summary of these restrictions is as follows:

- ODOT controls the right-of-way along McLoughlin. Any park improvements, including vehicular and pedestrian access to the site, will be strictly limited per ODOT guidelines. Any improvements within the park and the ODOT Right-of-Way need to consider possible future highway widening.

- TriMet owns the bicycle-pedestrian bridge and the property below the PMLRT viaduct. Any improvements in this area will need to be coordinated with TriMet. As of March 2015, TriMet and the City were coordinating design, construction and funding of the landings of the bicycle and pedestrian bridge to the north of the park and Kellogg Lake near Lake Road, and at the south end of the bridge within Robert Kronberg Natural Area.
- The railroad right-of-way is owned by Union Pacific Railroad and leased by Portland and Western Railroad. They currently do not allow any public access or park improvements on their property.

SAFETY AND EMERGENCY ACCESS

Safety and emergency access are a major considerations for the park. The park design and future management of the park should consider CPTED (Crime Prevention Through Environmental Design) techniques to help maintain the park as a safe environment, day or night. Some of these considerations include:

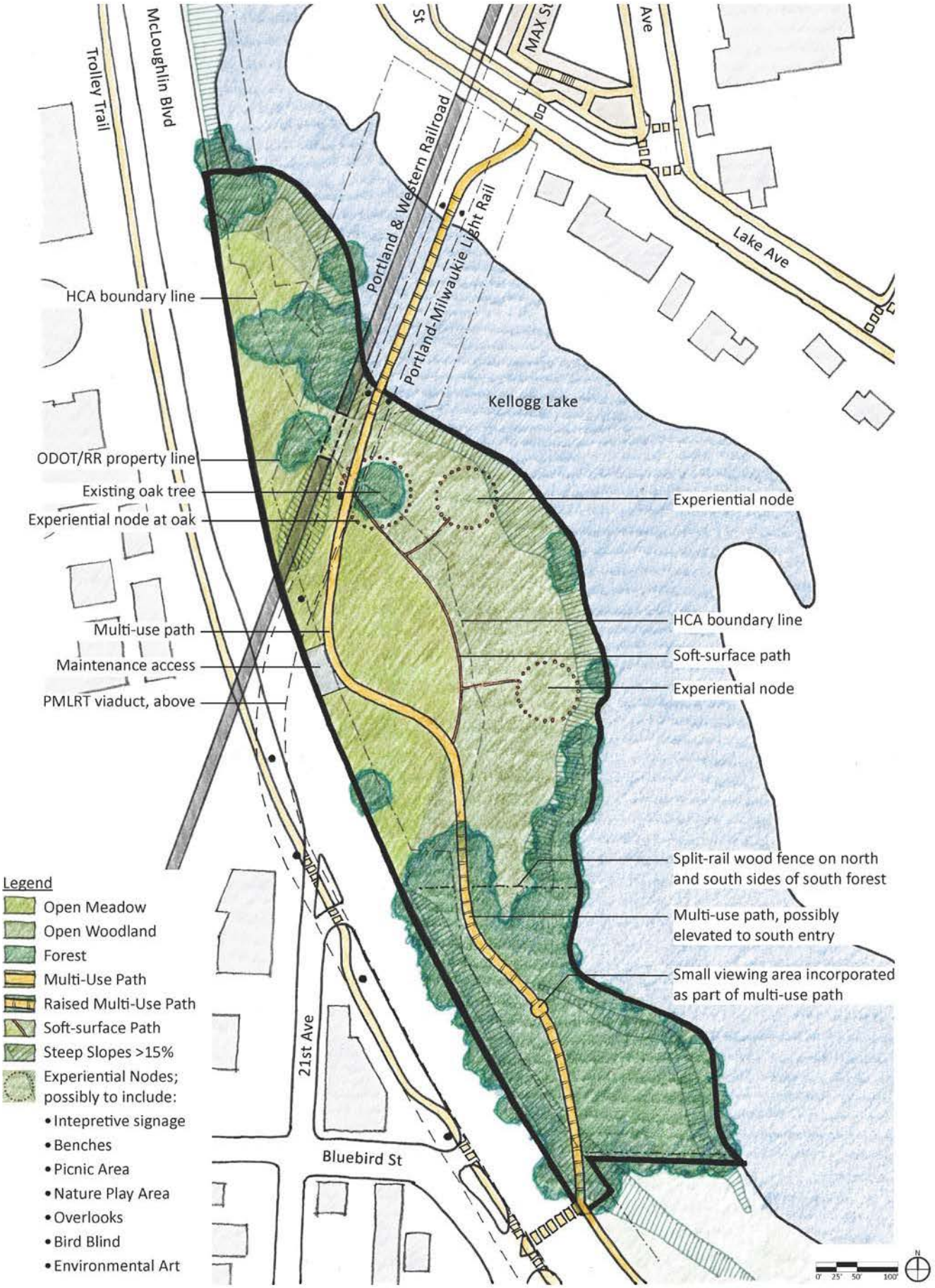
- Visibility is very important. This includes visibility both into the site from roadways and within the site from pathways and other site amenities. To the greatest extent practicable, vegetation will need to be both planned and managed to limit hiding spots near publicly accessible areas.
- The park should have amenities which attract the general public. If the park is used on a daily basis by the general public, it is less likely that it will be used or abused by transients or vandals.
- Areas which are not publicly accessible need to be clearly demarcated to discourage access. These areas will need to be checked periodically for undesirable activity.
- Lighting is another consideration. Providing lighting will provide additional security at night and will also help encourage use of the park by the general public after sunset. However, lighting will need to be balanced with habitat restoration requirements.
- The entire site must be accessible by emergency vehicles including police, fire, and ambulance.


McLoughlin Boulevard right-of-way


Railroad bridge and access road at north end of site

Each part of the park site has different safety and access characteristics. The general security and accessibility of each area of the site is as follows:

- The central portion of the site generally offers good visibility from McLoughlin, with the exception of the steep bank at the edge of the lake. Visibility into the site is constrained in areas closer to the railroad trestle and the TriMet bridge. The TriMet pedestrian bridge and approaches are visible from Lake Road. In terms of access, the central portion of the site can be accessed directly from McLoughlin. It will also be accessible from the north once the connection to the TriMet pedestrian bridge is completed.
- The south forested area is largely hidden by both the existing vegetation and the steep embankment along McLoughlin. This portion of the site has historically had the most problems with transients, illegal dumping, and vandalism. As previously noted, these problems have been mitigated somewhat with increased police patrols. Some additional improvement may also be possible through the removal of invasive trees and shrubs, but in general the south forest will remain relatively hidden. This part of the site currently can only be accessed via the central part of the site.
- Although it is visible from McLoughlin and accessible via an existing ODOT service road, the north parcel is overgrown with invasive plants which will need to be removed to open up the site. The bank along the lake is mostly hidden from view. There is also an informal path down to the lake adjacent to McLoughlin in the ODOT right-of-way which is hidden by the embankment and vegetation.


Trolley Trail
McLoughlin Blvd
Portland & Western Railroad
Portland-Milwaukie Light Rail
MAX St
Ave
Lake Ave
Kellogg Lake
HCA boundary line
ODOT/RR property line
Existing oak tree
Experiential node at oak
Multi-use path
Maintenance access
PMLRT viaduct, above
Experiential node
HCA boundary line
Soft-surface path
Experiential node
Split-rail wood fence on north and south sides of south forest
Multi-use path, possibly elevated to south entry
Small viewing area incorporated as part of multi-use path
21st Ave
Bluebird St
Legend
Open Meadow
Open Woodland
Forest
Multi-Use Path
Raised Multi-Use Path
Soft-surface Path
Steep Slopes >15%
Experiential Nodes; possibly to include:
• Intepretive signage
• Benches
• Picnic Area
• Nature Play Area
• Overlooks
• Bird Blind
• Environmental Art
0' 25' 50' 100'
N

MASTER PLAN PROCESS AND SCOPE

Lango Hansen Landscape Architects, NCPRD staff, and City staff met to discuss project scope and goals in August, 2014. At that time it was decided that the primary scope of the project would be on the parcels to the south of the trestle, with the option of including the north parcel if desired and if found to be feasible for future development. It was also agreed that there would be three public meetings, both to present information on the park planning process and to provide an opportunity for the public to provide input.

The first meeting was conducted on October 1st, 2014, and focused on site assessment and analysis. The second meeting on November 5th, 2014, focused on presentation of three options for park development which ranged from a fairly minimal level of improvements to a highly developed program. Some suggestions from the public, such as sound-mitigating berms, were found to be infeasible or unccessary and were not included in the preferred park master plan. The preferred park master plan, based on public feedback and input from NCPRD and City staff, was presented in the final public meeting on December 9th, 2014.

As part of this master plan process, the future park was confirmed and identified as a “Natural Preserve” with a “Linear Park” running through the property, as identified in the Milwaukie Comprehensive Plan, Chapter 4, Land Use. The future park will also be defined as a “Natural Area” in the NCPRD system.

PREFERRED MASTER PLAN PARK ELEMENTS

The physical and programmatic elements in the Preferred Park Master Plan are as follows:

Multi-use pathway. This is the highest priority for park development. This paved pathway will connect the TriMet bicycle-pedestrian bridge and downtown Milwaukie with the sidewalk, crosswalk and Trolley Trail at the south end of the park. The width of the pathway should be designed so that the path can accommodate both bicycle and pedestrian traffic; a 12’ width is preferred, but the width may be adjusted through future design processes. Where the multi-use path traverses the south part of the site, some or all of the pathway will be elevated to limit disturbance within the south forest area, provide a consistent and gentle grade to the south entrance of the park, achieve accessibility standards, and set the path above the 100-year flood line. The exact alignment of the path through the south forest will need to avoid existing trees to the greatest extent possible, especially the sequoia near the south park entry. The elevated portion of the path could also include a wider viewing area, generally located where the elevated path is closest to the lake. Lighting is preferred for safety along the entire length of the path, and would need to be designed to balance the need for user safety with habitat requirements. Lighting will be considered as part of future planning and design. Finally, the design and construction of the pathway will need to be coordinated with the connection to the TriMet bridge.

Example of a multi-use pathway at grade

Example of a multi-use pathway, elevated through south forest area

Maintenance access. A right-in-right-out maintenance-only access will need to be provided to connect McLoughlin to the multi-use pathway. The maintenance access will need to be sized to accommodate a typical NCPRD maintenance truck and trailer. It will also allow TriMet to access the bicycle-pedestrian bridge. The access will include a typical concrete driveway apron (width to be determined), and may include a vehicle-rated permeable unit paving, grasscrete, or similar permeable treatments to limit the visual impact of the maintenance access point on the site. The access will be signed to show that no public parking is allowed.

Example of a soft-surface path through forest area

Soft surface pathways. The soft surface pathways are intended to form a secondary circulation system within the park and will also provide access to the experiential nodes. They are proposed to be gravel paths, although the width and material may be adjusted through future design processes. While the paths are primarily shown outside of the Habitat Conservation Area (HCA), the exact alignment of the paths may be adjusted to include more or less of the HCA. There was also public interest in creating a soft-surface pathway connection to the north parcel; if the opportunity becomes available, NCPRD could work with others to create the preferred soft-surface pathway connection to the north portion of the site.

Experiential nodes. These may include any of the following elements: interpretive signage, benches, picnic tables, a single small nature play area, overlooks, bird blinds, and/or environmental art. The exact makeup, size, and location of each of these elements within the experiential nodes will be determined at the time of park design. If the elements in the experiential nodes are situated within HCA's, care should be taken to minimize the impact of the element within the HCA.

Example of a nature play element

Habitat preservation and restoration. Existing habitat areas on site will be preserved and habitat restoration will be enhanced. Fencing and signage will be added where appropriate to discourage the public from entering critical habitat areas; for instance, split-rail wood fencing is proposed for the north and south borders of the south forest area to discourage access.

Example of interpretive signage

Phasing of Park Development. Park improvements will likely need to be implemented in phases, depending on the availability of funding, coordination with partners and stakeholders, and regulatory requirements. The multi-use pathway and the secondary loop path could be Phase 1 improvements. The Experiential Node improvements could be built in future phases. Habitat restoration may occur in all phases; for instance, habitat improvements for the north parcel could be done with cooperation from neighbors and stakeholders, independent of development elsewhere in the park.

This plan is conceptual in nature. Initial cost estimates were developed and given to NCPRD to provide an assessment of construction cost for project budgeting and planning purposes. The cost estimates and project elements are subject to change due to further refinements that may occur as the final park design is completed. Final decisions, materials and precise locations of improvements will be determined per all applicable regulatory requirements and as funding is available.

Example of a picnic area

NEXT STEPS

The final step of this master plan process is to submit the Master Plan for review and approval by the City Planning Commission and City Council and adoption into the City's comprehensive plan. After approval of the Master Plan, based upon circumstances including funding and other considerations, and with mutual agreement by NCPRD and the City of Milwaukie, future steps could include:

1. NCPRD and the City can use the approved Master Plan to apply for grants and solicit partnerships to help complete improvements. Possible funding sources include NCPRD, the City of Milwaukie, Oregon Parks and Recreation grants, and/or Metro Nature in Neighborhood grants.
2. When funding has been secured, NCPRD will work with the City to develop final construction plans and specifications. This phase will include Intergovernmental Agreements (IGAs/MOUs), soil testing, and permitting and fees. NCPRD will follow necessary land use processes to ensure elements are consistent with all City policies and codes. NCPRD is also committed to aquiring all other regulatory permits as necessary prior to project commencement (e.g. Army Corps of Engineers, Division of State Lands, etc.).
3. Construction will follow after construction drawings and permits have been completed. This will include a Request for Proposals (RFP), selection of a contractor, and the construction of park improvements.

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Monroe Street Greenway Project

CITY OF MILWAUKIE

OCR USE ONLY

COUNCIL STAFF REPORT

To: Mayor and City Council
Ann Ober, City Manager

Date Written: Mar. 16, 2018

Reviewed: Denny Egner, Planning Director
Kelly Brooks, Assistant City Manager

From: Chuck Eaton, Engineering Director

Subject: **Monroe Street Neighborhood Greenway**

ACTION REQUESTED

Adopt a resolution that adopts the Monroe Street Neighborhood Greenway Concept Plan.

HISTORY OF PRIOR ACTIONS AND DISCUSSIONS

June 4, 2013 – Council adopted Res 47-2013: Authorizing staff to apply for a Transportation Growth Management (TGM) grant to fund a Monroe Street Neighborhood Greenway Concept Plan.

June 17, 2014 – Council adopted Res 55-2014: Authorizing an Intergovernmental Agreement (IGA) with the State of Oregon to accept the TGM grant that funded the Monroe Street Neighborhood Greenway Concept Plan.

August 2014 to May 2015 –staff reports updates on the project status (August 19, 2014, February 3, 2015 and May 19, 2015 work sessions).

December 1, 2015 – Council adopted Res 107-2015 adopting the Monroe Street Neighborhood Greenway Concept Plan.

August 16, 2016 – Council discussed pursuing funding of the Monroe Street greenway in work session and adopted Res 98-2016 authorizing the city to apply to Metro's Regional Flexible Fund program for funding for the Monroe Street Greenway in the regular session.

February 6, 2018 - Council adopted Res 8-2018 authorizing an intergovernmental agreement with Clackamas County to work together to further study the impacts of the proposed concept plans.

March 20, 2018 – Staff presented the findings from an extensive traffic study performed together with Clackamas County to determine the potential impacts associated with the Monroe Street Neighborhood Greenway concepts. Council directed staff to proceed with staff's recommendation to utilize the Washington Street option of the concept plan.

ANALYSIS

Background

The Monroe Street Neighborhood Greenway Plan aims to create a shared travel space along Monroe that is more conducive for active transportation. The target daily volume threshold for a neighborhood greenway is less than 1,500 vehicles for the entire corridor.

The Monroe Concept Plan states that a combination of traffic calming and diverters will be used to meet the greenway standard west of Linwood Avenue. Due to high vehicle volumes between Oak Street and 42nd Ave, the plan's recommended greenway route included an off-street path by the railroad tracks along the McFarland site, to connect with Washington Street at 37th Ave that would connect back with Monroe Street east of 42nd. The corridor continues east of Linwood along the county portion of Monroe Street and Thompson Street eventually connecting Downtown Milwaukie and the Trolley Trail to the I-205 pathway.

Resolution 107-2015 directed city staff to conduct additional modeling of traffic data, and to coordinate with other agencies as needed. Staff coordinated with Clackamas County perform additional traffic modeling that analyzes the main portion of the Monroe Street corridor between Fuller Road and 21st Ave. As a result of the additional traffic analysis staff is recommended the following modifications to the draft concept plan.

Plan modifications
Adopt the Washington Street option of the concept plan and add pedestrian elements to the Washington street alignment to mitigate the addition of bicycle traffic.

Eliminate the diverters at 37th and 42nd and Monroe as they will increase cut through traffic through the local neighborhood.

Add the traffic signal identified in the Transportation System Plan at Harrison and 42nd as part of the overall traffic mitigation plan to enhance movement on the Harrison/King Rd corridor.

BUDGET IMPACTS
None

WORKLOAD IMPACTS
None

COORDINATION, CONCURRENCE, OR DISSENT
Clackamas County and the City of Milwaukie Planning Department have been involved in the project to date.

STAFF RECOMMENDATION
Staff recommends that Council adopt a resolution amending the concept plan and directing staff to proceed with design development.

ATTACHMENTS
1. Resolution

6.12.

Railroad Multi-Use Path

Date:
Amended:

Capital Improvement Project

Scoping Agreement

RAILROAD AVENUE CAPACITY IMPROVEMENTS

(37th Avenue to Linwood Avenue)
Project Number
Project Start Date: Project Completion:

☒ **Transportation** ☐ **Water** ☐ **Sewer** ☐ **Storm**

This document outlines the scope, budget, responsibilities and desired outcomes of a funded project within the adopted Capital Improvement Plan (CIP). Changes to this document must be approved by the CIP steering team.

PROJECT INFORMATION

Program Manager: Chuck

Project Lead: TBD

Project Description: This project will have a pedestrian component and a public transit component. The pedestrian aspect involves the construction of a new multi-use path located along one side of Railroad Ave between 37th Ave and Harmony Rd. The public transit aspect involves providing bus service which will extend to the Clackamas Town Center and points further east. The purpose of the project is to address gaps in the pedestrian and bicycle systems and improve transit facilities.

Operating Budget Impact: This project will potentially increase ongoing operational needs due to the addition of new infrastructure.

Project Identified in: TSP, RTP (10095), SAFE

Applicable Comprehensive Plan Goals:

Goal 1 Livability guides the City to provide convenient, accessible and coordinated pedestrian facilities and to minimize barriers to pedestrian travel.
Goal 2 Safety calls for the design and maintenance of safe and accessible walkways.
Goal 3 Provide Travel Choices directs the City to provide an integrated network of

walkways that connect people with transit.
Goal 4 Quality Design calls for pedestrian facilities to be integrated with street and development planning in a context-sensitive manner.
Goal 5 Reliability and Mobility calls for enhanced connectivity, which particularly benefits pedestrians.
Goal 6 Sustainability guides the City to increase the use of walking as a low-impact form of travel.
Goal 7 Efficient and Innovative Funding calls for an emphasis on maintaining existing facilities.

Applicable City Vision Goal(s):

1a People: Arts, Community, Education, Happiness, Health, Innovation, Safety
Milwaukie is an inclusive community of diverse people from a variety of backgrounds that honors our differences and shared similarities. We are engaged and come together in many ways through various events and community gathering places, where we can celebrate our interests and passions.
1b People: Arts, Community, Education, Happiness, Health, Innovation, Safety
Milwaukie is a diverse community that provides opportunities and support for all of its residents through a variety of resources and enriching activities. We encourage and support a vibrant local economy that contributes to a high quality of life where residents can live, work, learn, and play.
2c. Place: Housing, Infrastructure, Mobility, Neighborhoods, Parks
Milwaukie has a complete, clean and attractive network of sidewalks, bike lanes and paths that enable accessibility, mobility, and safety for all. Streets are tree-lined, well-lit and designed to promote a healthy and active lifestyle. There is a seamless transition between walking, biking, and transit to key amenities and neighborhood centers.
4a. Prosperity: Business, Entrepreneurship, Income, Innovation, Investment, Job
Milwaukie offers numerous pathways to prosperity through an excellent education system and training programs that are connected to local business. Residents of all ages and backgrounds feel supported to pursue and attain success in our local community.

Date:
Amended:

PROJECT DETAILS

Project Delivery: The project design is scheduled to be outsourced to a consulting engineering firm from the City prequalification list.

Expectations, Outcomes and Alternatives: Construct a 12' multi-use path on the north side of Railroad Avenue from 37th Avenue to Linwood.

Typical project sections and other Design Assumptions: Path will be required to be constructed on the north side of Railroad Avenue. Existing compliant sidewalk will be removed for the installation of the path. Path may meander to avoid manholes, fire hydrants, and other structures.

Out of Scope: No water, sanitary sewer or stormwater work is budgeted, and only minor adjustment of structures is anticipated. Design will be focused to limit work on these utilities. Replacement of asphalt roadway surface is not included in the budget. Eastern end of path will connect to sidewalk and bike lanes at Railroad Avenue and Linwood Avenue that will be constructed as part of the Linwood project.

SECTION OR ALTERNATIVE 1

(37th Avenue to 12471 SE 60th Court)

Section R/W Width: 60'
Section Length: 7070'

West/North Side **East/South Side**

Existing Section												
Side Walk	LS	Curb Type	Park	Bike lane	Lane	Median Lane	Lane	Bike lane	Park	Curb Type	LS	Path
-	**-**	**-**	**-**	**-**	**9**	**-**	**9**	**-**	**-**	**-**	**-**	**-**
Proposed Section												
Side Walk	LS	Curb Type	Park	Bike lane	Lane	Median Lane	Lane	Bike lane	Park	Curb Type	LS	Path
12	**V**	**-**	**-**	**-**	**9**	**-**	**9**	**-**	**-**	**-**	**-**	**-**

Section Details and Notes: Installation of the multi-use path will require extensive grading and retaining wall construction.

Date:
Amended:

SECTION OR ALTERNATIVE 1

(12471 SE 60th Court to Linwood Avenue)

Section R/W Width: 60′
Section Length: 733′

West/North Side **East/South Side**

Existing Section												
Side Walk	LS	Curb Type	Park	Bike lane	Lane	Median Lane	Lane	Bike lane	Park	Curb Type	LS	Path
5	**-**	**C**	**-**	**-**	**11**	**11**	**11**	**-**	**-**	**C**	**-**	**-**
Proposed Section												
Side Walk	LS	Curb Type	Park	Bike lane	Lane	Median Lane	Lane	Bike lane	Park	Curb Type	LS	Path
12	**V**	**C**	**-**	**-**	**11**	**11**	**11**	**-**	**-**	**C**	**-**	**-**

Section Details and Notes: Installation of the multi-use path will require extensive grading and retaining wall construction.

Date:
Amended:

PROJECT PARAMETERS

Project Risks: Extensive grading will be required and potentially retaining wall construction to enable the installation of the path.

Project Contingencies: Path may be constructed with impervious or porous asphalt.

Engineers' Cost Estimate: Preliminary Engineering estimate from CIP.

Note: In-house services, while listed in the budget are not part of the required resources as they are funded outside the CIP.

Budget	Amount	Note		Resources	Amount	Note
Feasibility Study				Transportation		Gas Tax
Engineering						SSMP
Surveying					$37,000	SAFE
Preliminary				Water		
Final Plans				Wastewater		
Construction				Stormwater		
Right-of-way				MRC		
Construction				SDC		"Type"
Contingency				Other		"List"
Total	$			**Total**	$	

Schedule

Engineering Phase: FY19

Right-of-Way Phase: N/A

Construction Obligation year: N/A

Completion target date: N/A

Date:
Amended:

General expectations of the CIP Steering Team

This document, when signed, indicates agreement by the signing parties and gives the project team approval to proceed with the project as defined above. Following approval of this document, any deviations or subsequent proposed changes to the project scope, schedule, or budget that results in delaying or cancelling another CIP project, requires additional funds from another program manager, or moves the obligation of the construction phase into a new fiscal year is required to be approved by the Steering Team.

APPROVALS

Owner's Representative		
	Assistant City Manager	Date
Program Manager		
	Engineering Director	Date
Program Manager		
	Public Works Director	Date
Program Manager		
	Community Development Director	Date
Budget Authorization		
	Finance Director	Date

7. Public Works

7.1. Master Plans and Programs

Electronic Copies Available: City Council Online Handbook

Stormwater Master Plan (2014 update)

In 2012, the city of Milwaukie (City) began efforts to update its Stormwater Master Plan. The previous Stormwater Master Plan was developed in 2004.

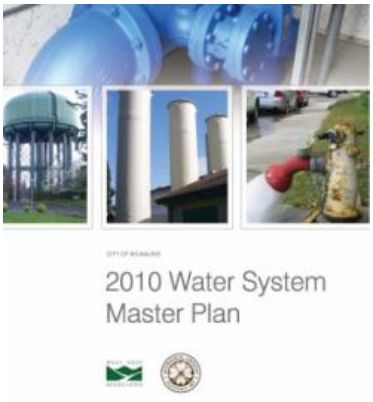
The need for the update was driven by (1) the changing regulations for underground injection controls (UICs) and the City's National Pollutant Discharge Elimination System (NPDES) municipal separate storm sewer (MS4) permit requirements, and (2) funding challenges preventing the City from implementing capital improvement projects (CIPs) as identified in the 2004 Master Plan.

This 2012 Milwaukie Stormwater Master Plan (Plan) is intended to help the City in the development, prioritization, and scheduling of a 10-year stormwater CIP.

Wastewater Master Plan (2010)

The 2010 Wastewater System Master Plan describes future planning and CIP tasks, recommends future maintenance projects for the collection system, offers technical guidance for the sewering of presently unsewered areas, reviews existing Intergovernmental Agreements (IGAs) with neighboring public agencies, and assesses staffing needs. The goal for the Plan was to produce a road map for the successful management of the City's wastewater system. It addresses wastewater issues in a straightforward, understandable fashion, customized for the City.

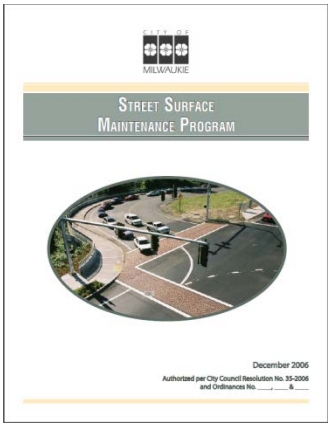
Water Master Plan (2010)



This 2010 Water System Master Plan identifies strategies for maintaining adequate water supplies and service levels for the community; guides capital expenditures for the system; furnishes important guidance on operational issues; and charts a course for future updates to water rates.

Electronic Copies Available: City Council Online Handbook

Street Surface Maintenance Program (2006)



The full Street Surface Maintenance Program is available via the City Council Online Handbook

http://www.milwaukieoregon.gov/citycouncil/city-council-online-handbook

7.2.

Single-Use Plastic Bag Ban and Polystyrene Foam Ban

CITY OF MILWAUKIE

SINGLE-USE PLASTIC BAG BAN AND POLYSTYRENE FOAM BAN

A group of concerned citizens identifying themselves as the Milwaukie Environmental Stewards Group (MESG) spoke during the audience participation portion of the March 6, 2018, City Council meeting and presented two proposals related to garbage reduction and requested that City Council take action. The proposals considered a single-use plastic bag ban and a polystyrene foam container ban.

Members of the MESG discussed their proposal at the April 12, 2018, Linwood NDA meeting to ban single-use bags and indicated that they would be starting a letter writing campaign, a petition in support of the ban and would conduct a survey with retailers.

At the May 8, 2018, City Council Study Session, the Public Works Director provided information, and a recommendation on strategies to ban plastic bag use in the City of Milwaukie. Council agreed to bring forward and adopt a resolution in June 2018, a resolution addressing the use of Styrofoam, plastic bags and straws.

City Council passed a resolution on June19, 2018, to encourage the use of alternatives to Styrofoam, plastic bags, and straws, identified the intent to enact an ordinance banning single-use plastic bags at Milwaukie's large retailers and on City-owned properties and limit the use of polystyrene food containers.

Based on input from Council at the May 8, 2018, City Council Study Session, and from the June 19, 2018, Council Resolution, staff developed a proposed measure to specifically address the single-use plastic bags and polystyrene foam packaging.

At its Aug. 21, 2018, Regular Session meeting, City Council approved an ordinance that bans single-use plastic bags and polystyrene foam packaging by restaurants and retail stores with a store footprint of 10,000 square feet or larger, as well as businesses located on City-owned property. The ban becomes effective on March 1, 2019.

City Council adopted the ordinance to ban plastic bags and polystyrene packaging as part of the City's overall waste reduction and recycling goals to help reduce plastics in the waste stream. On March 1, 2019, businesses must provide only recycled paper bags or reusable bags as checkout bags for customers.

Between now and the date this ordinance goes into effect, retailers are allowed to continue using single-use bags to drawdown their stock. Once in effect, businesses found in violation of the ban will face monetary fines.

Plastic bags that are provided at times other than checkout are allowed, which includes bags for meat, produce, bulk items and prescription drugs. Plastic bags that are at least 4 millimeters thick would be considered reusable and may be provided at the retailer's discretion.

CITY OF **MILWAUKIE**
COUNCIL **ORDINANCE No.** 2162

AN ORDINANCE OF THE CITY OF MILWAUKIE, OREGON, AMENDING THE MUNICIPAL CODE BY ADDING A NEW CHAPTER 16.36 ADOPTING PROVISIONS FOR SINGLE USE PLASTIC CHECKOUT BAG AND POLYSTYRENE FOAM PACKAGING.

WHEREAS, the City Council finds only a tiny percentage of single-use plastic and Styrofoam food packaging products is recycled, and that single-use plastic and Styrofoam food packaging products are polluting our waterways and the world's oceans, and that single-use plastic and Styrofoam food packaging products also contribute significantly to our dependence on fossil fuels, which we are attempting to reduce as part of our work toward a Milwaukie Climate Action Plan (CAP); and

WHEREAS, the consensus of the City Council discussion has been to enact an ordinance banning single-use plastic bags and polystyrene foam at Milwaukie's large retailers of 10,000 square feet or greater and on City-owned properties; and

WHEREAS, the City Council held a Work Session on the topic of a ban on May 8, 2018, and passed a resolution Encouraging Use of Alternatives to Styrofoam, Plastic Bags, and Straws on June 19, 2018.

Now, Therefore, the City of Milwaukie does ordain as follows:

Section 1. The Milwaukie Municipal Code (MMC) is amended by adding a new Chapter 16.36 Single Use Plastic Checkout Bag and Polystyrene Foam Packaging, to read as shown on the attached Exhibit A

Section 2. This ordinance shall take effect on March 1st, 2019.

Read the first time on 8/21/18, and moved to second reading by 5:0 vote of the City Council.

Read the second time and adopted by the City Council on 8/21/18.

Signed by the Mayor on 8/21/18.

Mark Gamba, Mayor

ATTEST:

Scott S. Stauffer, City Recorder

APPROVED AS TO FORM:
Jordan Ramis PC

City Attorney

Chapter 16.36 Single-Use Plastic Checkout Bag and Polystyrene Foam Packaging

16.36.010 Purpose.

The purpose of this Chapter is to regulate the distribution of plastic bags at retail establishments and food provider establishments and the use of polystyrene foam. The distribution of plastic bags and the use of polystyrene foam has significant, ongoing harmful impacts upon the environment, including:

1. They are a major source of litter.
2. When littered, they are detrimental to wildlife that ingests them.
3. They are persistent in the environment.

16.36.020 Definitions.

For purposes of this Chapter and any rules adopted under this Chapter, the following terms have the following meanings.

City Manager" means the City Manager or the City Manager's authorized representative, designee or agent.

"Food provider" means any person in the City that provides prepared food for public consumption on or off its premises and includes, without limitation, any retail establishment, shop, sales outlet, restaurant, grocery store, delicatessen, or catering truck or vehicle.

"Packaging" means to-go containers, bowls, cups, live bait, food trays, or other common uses in the food industry.

"Polystyrene Foam" means any material composed of polystyrene, a thermoplastic material utilizing the styrene monomer, and having a closed cell air capacity of 25 percent or greater, or a density of less than 0.787 grams per cubic centimeter based on an average polystyrene density of 1.05 grams per cubic centimeter, as determined by an analytical testing laboratory.

"Recycled paper bag" means a paper checkout bag provided by a retail establishment or food provider to customers, meeting the following requirements:

1. Contains a minimum of 40 percent recycled content; and,

2. Is accepted for recycling in the City or contracted by City recycling program regulations.

"Retail establishment" means any sole proprietorship, partnership, limited partnership, family limited partnership, joint venture, association, cooperative, trust, estate, corporation, personal holding company, limited liability company, limited liability partnership or any other form of organization located within the City that sells or offers for sale goods to a customer.

"Reusable bag" means a bag with handles that is specifically designed and manufactured for long-term multiple reuse and is

1. Made of cloth or other machine washable fabric; or

2. Made of durable plastic that is at least 4.0 mils thick.

"Single-use plastic checkout bag" means a plastic bag that is provided by a retail establishment or food service facility to a customer and is not a reusable bag. A single-use checkout bag does not include the following:

1. A bag provided by a pharmacist or pharmacist's assistant to contain prescription medication purchased by customers of the pharmacy;

2. A non-handled bag used to protect a purchased item from damaging or contaminating other purchased items when placed in a recycled paper bag or reusable bag; or,

3. A plastic cover designed and used for protecting garments on a hanger.

16.36.030 Authority of City Manager.

A. The City Manager is authorized to administer and enforce this Chapter's provisions.

B. The City Manager is authorized to adopt procedures and forms to implement this Chapter's provisions.

16.36.040 Checkout Bag Regulation.

A. The following must provide only recycled paper bags or reusable bags as checkout bags to customers:

1. Retail establishments or food providers with greater than 10,000 square feet in specific store size.
2. Retail establishments or food providers on City-owned properties.

B. Any retail establishment or food provider that violates Subsection 16.36.040 is subject to penalties as set forth in Section 16.36.060.

16.36.050 Polystyrene Foam Regulation

A. A food provider with greater than 10,000 square feet in specific store size or on City-owned property may not serve prepared food in any polystyrene foam product.

B. A food provider that violates Subsection 16.36.050 is subject to penalties as set forth in Section 16.36.060.

16.36.060 Enforcement and Penalties.

A. If any retail establishment or food provider violates this Chapter, the City may impose the following penalties and enforcement actions:

1. Upon the first violation, the City Manager will issue a written warning notice to the retail establishment or food provider that a violation has occurred.

2. Upon subsequent violations, the following penalties apply:

a. $100 for the first violation after the written warning within a twelve-month period;

b. $200 for the second violation within a twelve-month period; and,

c. $500 for any subsequent violation within a twelve-month period.

3. The City may not impose more than one penalty upon any single location of a retail establishment or food provider within a seven-day period.

B. If the City Manager makes a determination that a retail establishment or food provider has violated this Chapter or any regulations adopted under this Chapter, the City Manager will send a written notice of the violation by mail to the retail establishment or food provider specifying the violation and the applicable penalty as set forth in Subsection A.

C. The City may use the provisions of Milwaukie Municipal Code Chapter 1.08 to enforce this Chapter.

7.3.

Climate Action Plan

CITY OF MILWAUKIE

CLIMATE ACTION PLAN (CAP)

A Climate Action Plan is a roadmap of community-led actions that will put Milwaukie on a path to achieve goals related to climate preparedness and reducing carbon emissions. It is being developed using the best science and the best of our community's thinking. Created by the community, the Plan includes opportunities for people who live and work in Milwaukie to take action and preserve the things we hold dear.

Link to draft CAP: https://www.milwaukieoregon.gov/sustainability/climate-action-plan

CITY OF MILWAUKIE

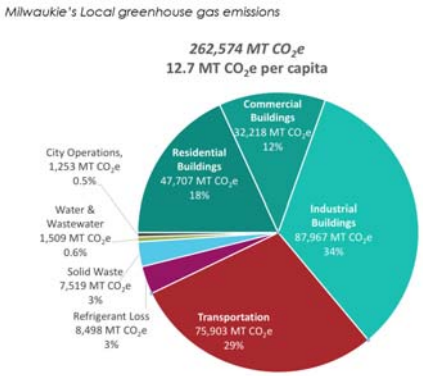
Climate Action Plan

Milwaukie Climate Action Plan

Project Update – September 4th 2018

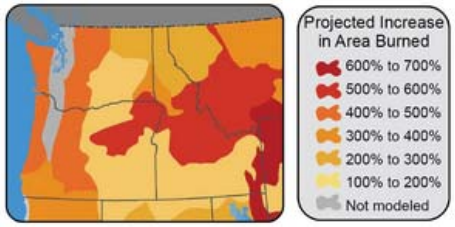
What is our Climate Action Plan

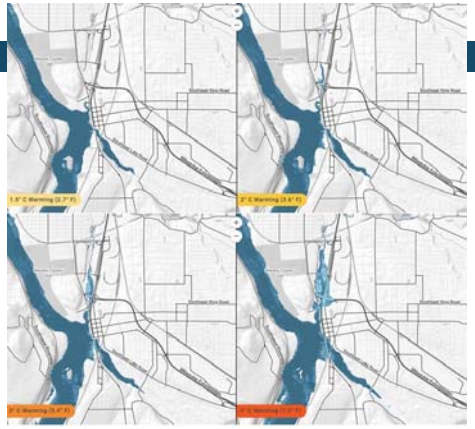
- Our road map to mitigating and adapting to the effects of climate change. Implementing this plan is a powerful, crucial step in preserving our future
- It is a living Plan, resulting in three documents
  - Climate Action Plan – City Led Action
  - Household Action
  - Organizational Action

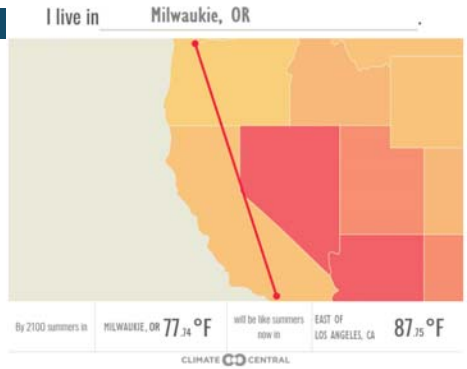


Our Climate Action Plan will help us:

- Guide our efforts to reduce our emissions
- Plan infrastructure and land use projects
- Prioritize City actions and initiatives
- Advocate for coordinated change with our partners
- Educate our community about the impact of our habits
- Promote sustainable economic development



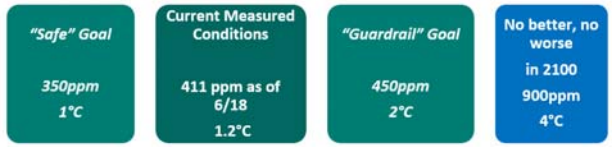




Why we must Act

Milwaukie's Climate Action Goal

Figure 14: Climate action "goals" and associated temperature/atmospheric concentration targets

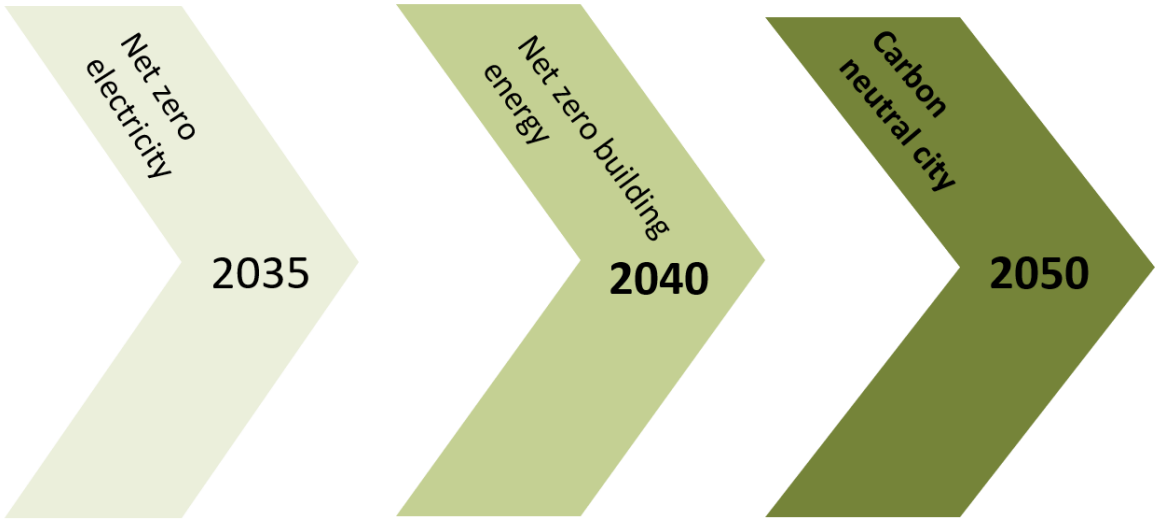


Our goal: A carbon neutral Milwaukie by 2050

- **Milwaukie will be a net zero energy (electricity and gas) city by 2040, looking ahead to being fully carbon neutral by 2050**

Our goal: Milwaukie will be a **net zero building energy city** by 2040, looking ahead to **being fully carbon neutral by 2050**

Our goal: By 2040, Milwaukie's buildings will have no net emissions, looking ahead to **being fully carbon neutral by 2050**



By becoming more energy efficient and using renewable electricity sources, Milwaukie's net emissions from electricity are

By sourcing renewable natural gas and offsetting gas emissions, Milwaukie's net building energy emissions are

By changing our habits, switching to lower-emission fuels and offsetting emissions, Milwaukie's net CO_2 emissions are

Interim Goals

- By 2035, Milwaukie's buildings will have no net emissions from electricity.
- By 2040, Milwaukie's buildings will have no emissions from other fuels for heating. (gas, oil and propane – started in 2018)
- By 2050, Milwaukie will be fully "carbon neutral," meaning we will reduce or offset our carbon emissions entirely.

City	Plan (Year of Implementation)	Goal	Goal
Ashland	Climate and Energy Action Plan (2017)	Reduce GHGs 8% on ave 2050	Attain carbon neutrality in City ops/ 2030, and no fossil fuel use by 2050.
Beaverton	Sustainability Action Plan, (2014)	N/A	80% GHG reduction by 2050
Bend	Community Climate Action Plan (dev)	reduce fossil fuel use by 40% by 2030	Reduce fossil fuel usage70%/2050
Corvallis	Climate Action Plan (2017)	57% GHG reduction / 2030	83% GHG reduction by 2050
Eugene	Climate Recovery Plan (2014)	50% GHG reduction / 2030	80% GHG reduction /2050
Gresham	Sustainability Initiative (2011)	100% renew / 2030	80% GHG reduction /2050
Portland	Climate Action Plan (rev 2015)	40% GHG Reduction / 2030	80% GHG Reduction /2050

City –Led Strategies

Table 1. Number of actions per topic

Topic	City-led mitigation actions	City-led adaptation actions
Building energy and efficiency	8	1
Vehicles and fuels	7	2
Land use and transportation planning	10	4
Materials use, purchasing and recovery	7	0
Natural resources	1	7
Public health and emergency preparedness	0	5
Total	33	19

- In total, existing policies and the strategies set out in this Climate Action Plan are forecast to reduce emissions by 186,500 metric tonnes of CO_2e – or 73% – compared to 2016 community emissions by 2035.

City – Led Strategies

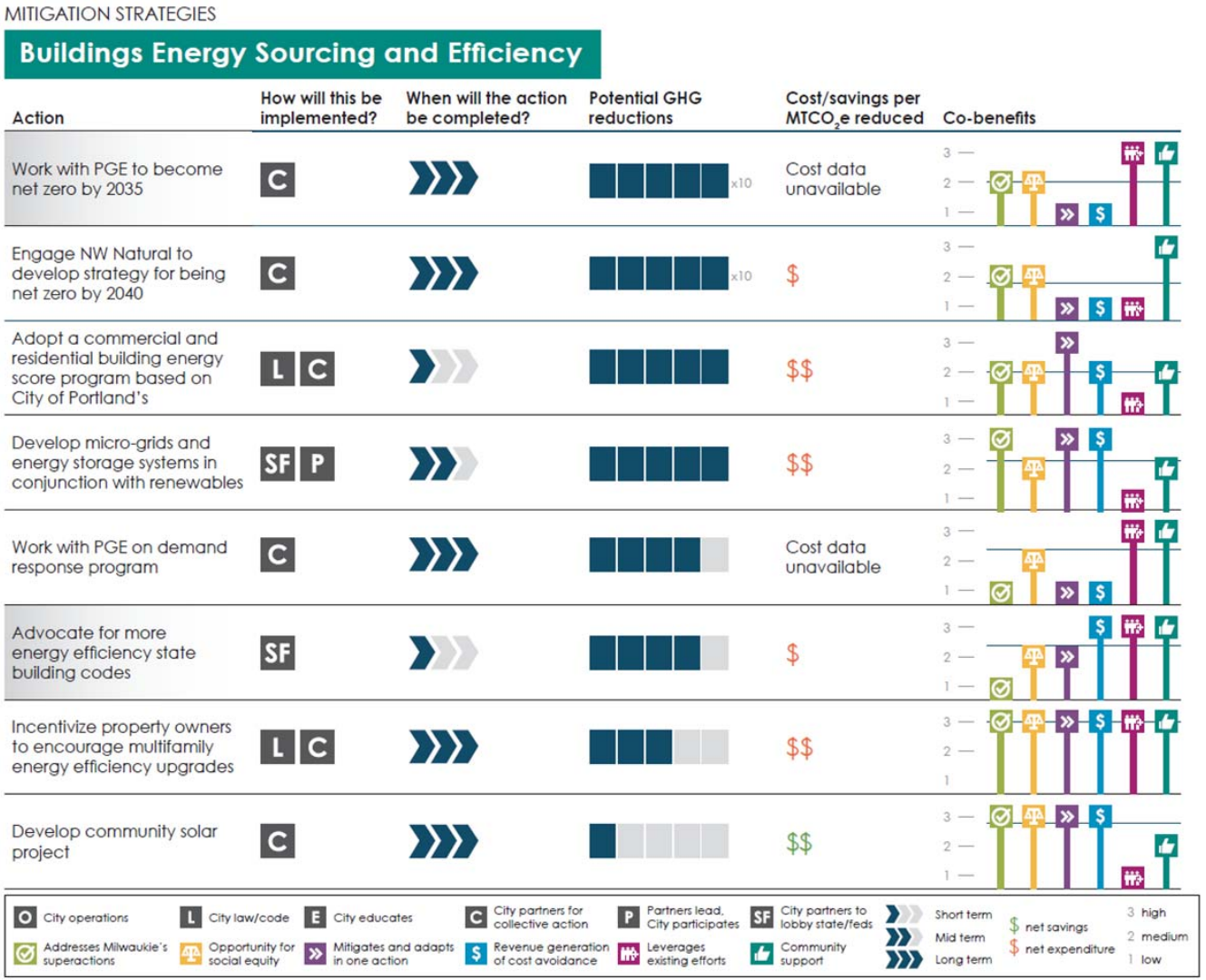
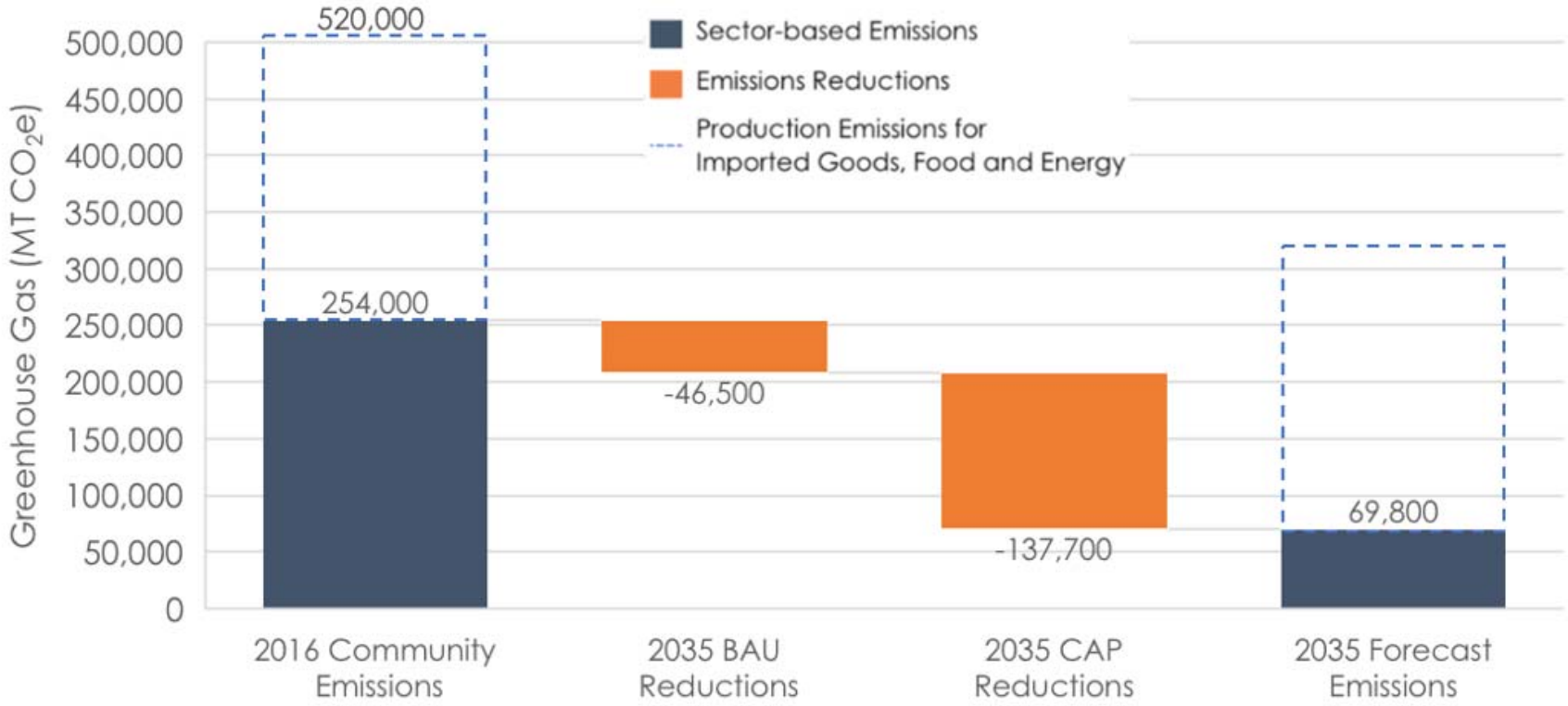
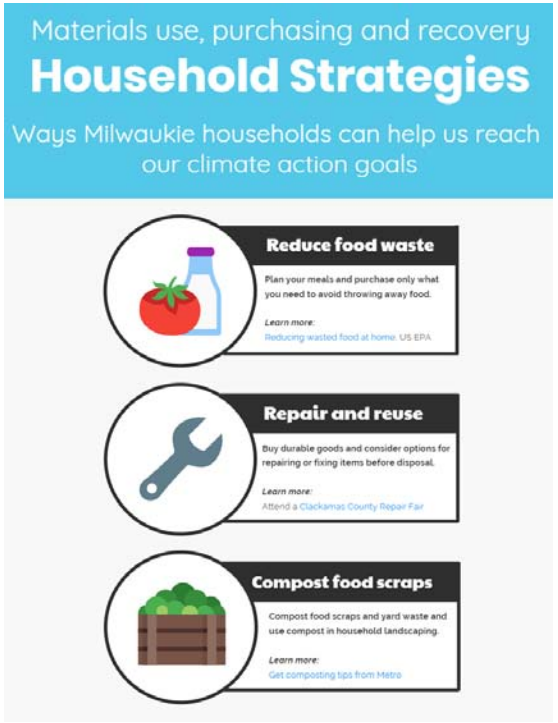


Figure 4. Forecasted emissions reductions from existing policies and Climate Action Plan actions/



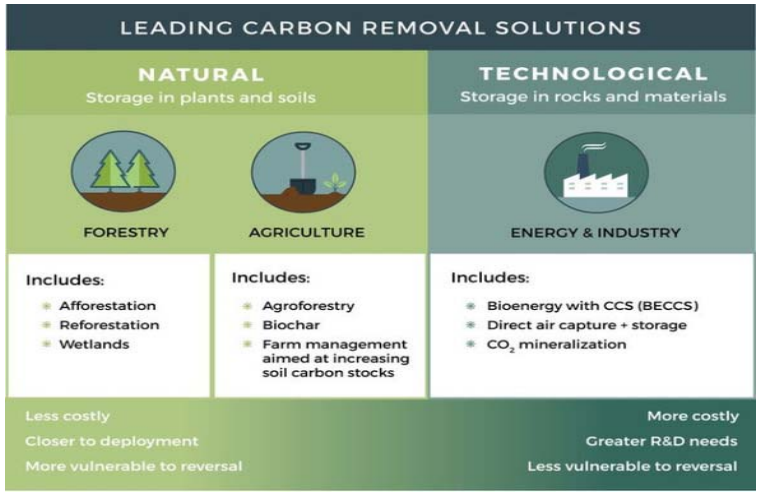
How are we closing the Gap

- Household Strategies



- Organizational Strategies

- **Future Strategies**



Project schedule and updates

Date	Task
Aug. 28	CAPC #4 - Review draft CAP feedback and discuss final revisions
Sept. 4	Update to City Council
Aug. 29 – Sept. 13	Project team revises draft CAP and puts into final layout
Sept. 14 – Sept. 21	Final draft CAP in layout available online for public and implementation partner review
Oct. 2	CAP on Council agenda for review, discussion and potential adoption

7.4.

Urban Forest Plan and Tree Code

CITY OF MILWAUKIE

TREE BOARD – URBAN FOREST PLAN AND TREE CODE

The community-led Milwaukie Tree Board helps the City manage and protect our urban forest.
The Tree Board is an advocate for our trees and a resource for all Milwaukians.

Tree Board priorities for 2018:

- Develop an Urban Forest Plan that reflects our community's shared values and goals
- Review and update our City tree code to ensure we have the tools to manage and protect our tree canopy. A strong Urban Forest Plan and tree code will guide new development responsibly
to increase tree cover and prevent harmful, unnecessary tree removal.

Draft Urban Forest Plan:
https://www.milwaukieoregon.gov/sites/default/files/fileattachments/tree_board/page/89271/2018_outreach_tb_-_draft_urban_forest_plan.pdf

7.5.

EV Chargers

FOR IMMEDIATE RELEASE

June 20, 2018

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PGE and City of Milwaukie partnering to expand access to electric vehicle charging

Marking a key milestone in PGE's Transportation Electrification Plan and the City's path to be net zero

MILWAUKIE, Ore. June 20, 2018 — Portland General Electric and the City of Milwaukie announced their plans today to partner on the addition of a new Electric Avenue charging hub in the heart of Milwaukie's downtown by the end of this year. This announcement comes in the midst of this week's Roadmap 2018, the nation's largest and most advanced annual conference on electric and smart mobility.

The new charging hub is part of PGE's Transportation Electrification plan that is designed to advance Oregon's transition to a clean energy future with new electric transportation options for car owners and mass transit riders.

"Transportation electrification is key to a sustainable future and providing robust charging facilities is a great first step for us to take towards the realization of our climate action plan," said Mayor Mark Gamba. "We're excited to partner with PGE in a variety of ways as we pursue our aggressive goal of being a Net Zero City by 2040."

Transportation is the largest source of carbon emissions in Oregon, making an electrified transportation system critical to a carbon-free economy.

"This new charging hub is part of our larger effort to increase access to electricity as a transportation fuel for our entire region," said Maria Pope, president and CEO of PGE. "Under the leadership of Mayor Gamba, the City of Milwaukie is taking progressive steps to address climate change. Partnerships like ours demonstrate how the whole community, working together, will create a clean energy future."

The newest Electric Avenue will be on Highway 99E between SE Jackson and Monroe Streets, a location strategically selected for its high use and visibility to expand access to and awareness of the benefits of driving electric. With six ports, charging options will be available for any type of EV. Charging fees will be $5 for a quick charge and $3 for a standard charge. An optional charging membership will also be available at $25 per month, waiving the per charge fees. Construction is scheduled to begin late summer.

Five additional charging hubs are called for in PGE's plan, which was approved earlier this year by the Oregon Public Utility Commission. Approval of the plan followed Governor Kate Brown's executive order issued in November 2017, which established a goal of 50,000 registered electric vehicles in Oregon by 2020.

PGE's original Electric Avenue — now located at its World Trade Center headquarters — was designed to pilot innovative station layouts, signage and pricing structures. Since its installation in October 2015, it has charged more than 1.25 million miles of driving, avoiding more than 515 metric tons of CO_2.

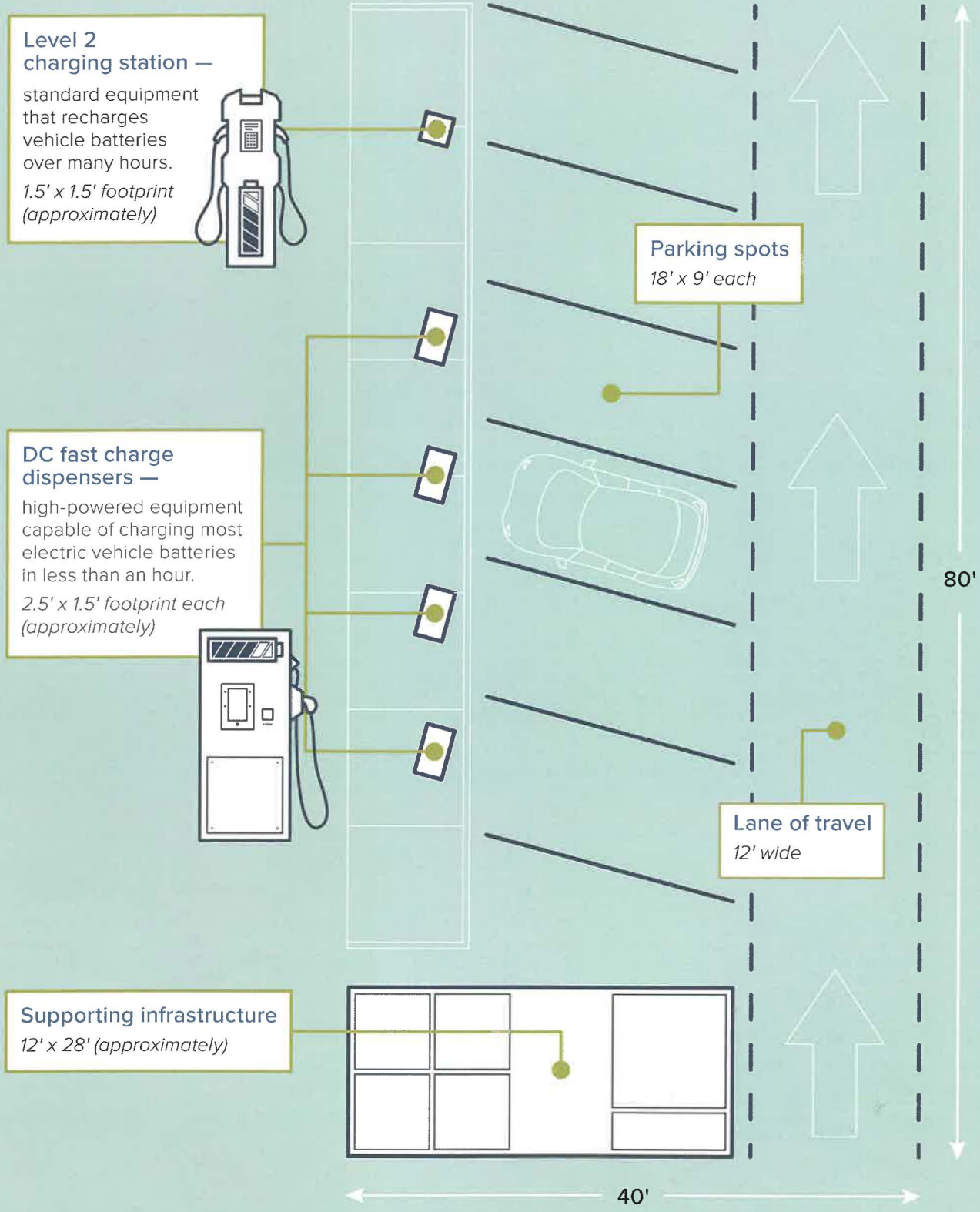
About Portland General Electric Company: Portland General Electric (NYSE: POR) is a fully integrated energy company based in Portland, Ore., serving 877,000 customers in 51 cities. For more than 125 years, PGE has been delivering safe, reliable energy to Oregonians. With 2,900 employees across the state, PGE is committed to building a cleaner, more efficient energy future. Together with its customers, PGE has the No. 1 voluntary renewable energy program in the U.S. For more information, visit PortlandGeneral.com.

About City of Milwaukie: Nestled along the banks of the Willamette River and steeped in history, Milwaukie enjoys the comforts of a small town, as well as the benefits of its close location to Portland. Woven through the fabric of the community is the value placed on ingenuity. Milwaukie prizes creativity to get things done by finding innovative solutions and residents embrace originality to find new ideas that better the community. These values can also be found in the city's robust and thriving business community. Milwaukie is home to several of Oregon's largest and most iconic employers. To learn more about Milwaukie, visit milwaukieoregon.gov.

# # #

ELECTRIC VEHICLE CHARGING HUB NETWORK EXPANSION

Example Electric Avenue site layout*



*Layout is for size/scale example.
Other layouts will also work.

Electric Avenue community charging hubs

PGE is proud to announce the addition of six new community charging hubs to our electric vehicle charging network. There has never been a better time to host electric vehicle charging infrastructure. Electric vehicle adoption is expected to increase sharply in the next five years as vehicle prices decline, ranges increase and the number of new models expands.

Electric Avenue site profile

Ideal sites for PGE's community charging hubs will have room for six parking spaces and supporting infrastructure (see illustration). Other important criteria include that sites are:

- **Safe, visible and accessible 24/7**
- **Near open amenities**
- **Close to electrical distribution infrastructure**

Project timeline

PGE will finalize all new locations by mid-2018. The first sites are projected to be operational by the end of 2018, with all sites completed by the end of 2019.

Partner with PGE

We're excited to work with businesses, municipalities and other organizations interested in hosting the next Electric Avenue community charging hub. Sites are limited, and not all proposals will get accepted.

Site host benefits

- Pay no cost for site development, operation, energy use or maintenance
- Increase traffic to your location (average potential usage of 40 sessions per day)
- Demonstrate leadership in environmental stewardship

Interested in hosting?

Contact us at electricavenue@pgn.com or call 503-464-2148.

Electric Avenue snapshot

PGE's pilot location in downtown Portland hosts an average of 40 charging sessions per day with an average dwell time of 43 minutes per session. All electric vehicle charging is powered by 100% renewable energy, resulting in over 500,000 miles of electrified travel and 217 metric tons in carbon savings every year.

PortlandGeneral.com/ElectricAvenue

03/2018

7.6.

Downtown LED Streetlight Conversion

CITY OF MILWAUKIE

DOWNTOWN ORNAMENTAL STREETLIGHTS CONVERSION

New streetlights will be part of the Guardian Development project Public Area Requirements (PARS). The project calls for the installation of 5 new streetlights along the frontages of 21st and Washington. Portland General Electric (PGE) is no longer installing new HPS lights and are installing LED fixtures.

Milwaukie's existing PARS require the installation of the WST Westminster, post top acorn with band and finial lighting fixture or a PGE approved equivalent (see attachment #1). This applies to all streets in the downtown area except McLoughlin.

PGE has 4 approved ornamental LED fixtures and has asked the City to select a fixture for installation to be used at the Guardian Development project (attachment #2). Three of the approved fixtures (Washington Postlite, Yarmouth Fixture and the Wellington Fixture) are top mounted LED Dark Sky compliant fixtures, while the fourth is a center mounted LED, which is not Dark Sky compliant. The Washington Postlite Fixture is a lensless fixture. Public Works staff, Engineering staff and Planning staff have reviewed the fixtures and have selected the Wellington Dark Sky compliant fixture for use.

Beyond the Guardian Development project, the City currently has 116 ornamental streetlights in the downtown area. These ornamental streetlights were installed sometime during 2005 and 2006. 114 of these streetlights are City owned and are billed under PGE's Option B and two (2) of the lights are PGE owned and billed under Option A. Streetlights under Option A are streetlights purchased, owned and maintained by PGE. Streetlights under Option B are streetlights purchased by the customer, but maintained by PGE.

PGE has proposed a conversion of all our Downtown Ornamental Streetlights to LED which will result in transitioning the 114 Option B lights to Option A. Action Goal 1.8 from the City's Vision calls to incorporate Dark Sky friendly Streetlights to minimize light pollution.

The LED fixtures will improve lighting conditions throughout downtown for pedestrians, bicyclists and drivers. Specifically, the LED streetlights will illuminate our streets and sidewalks with a warmer white light. Additionally, the new streetlights will cost much less to maintain. Unlike high-pressure sodium lamps which burn out after four years, LED fixtures are virtually maintenance free for up to 20 years.

The conversion process is simple: PGE will remove the fixture of the HPS streetlight and replace it with a new LED fixture, leaving the existing pole untouched. PGE currently expects the conversion could be completed by the end of 2018.

The new LED streetlights will consume on average 50 percent less energy than the current streetlights, thereby reducing electricity costs for the City and reducing Milwaukie's environmental footprint. The KWH reduction is expected to be 35,000 KWH per year and

it is estimated that there will be 26 metric tons per year reduction in greenhouse gas emissions. Highlighted are a savings of nearly 35,000 KWH per year, just for the LED's themselves.

The LED conversion will require a transition from Option B to Option A. The new lights would be PGE owned, with no upfront cost of replacement. Poles would remain Option B, until end of life or if they are car hit or damaged, at which time they would be transitioned to Option A. The cost is for this $634.38 per month or $7,612.56 per year. The Option A cost for LED is higher as the rate structure absorbs the cost of the new fixtures and future maintenance, repairs and replacement.

			WATTAGE		Kwh / year*		Monthly Rate	
Lamp Code	Lamp Description	TOTAL LIGHTS	Current	LED	Current	LED	Current	LED
81	100W HPS ACORN 9,500 LUMEN	45	100	60	18450	11070	$ 347.42	$ 612.00
82	150W HPS ACORN 16,000 LUMEN	62	150	70	38130	17794	$ 609.46	$ 972.78
83	250W HPS ACORN 27,500 LUMEN	9	250	70	9225	2583	$ 134.73	$ 141.21
		116			65,805	31,447	$ 1,091.61	$ 1,725.99
*Based on 4,100 Burn Hours Annually						(34,358)		$ 634.38
			Greenhouse Gas Emissions Savings			26 Metric Tons		

Lamp Code	Lamp Description	Option A	Option B	Current Rate (A)	Current Rate (B)	Total Current Monthly	Future LED Option A Rate	Total FUTURE Monthly	POSSIBLE OPTION A LED REPLACEMENT
81	100W HPS ACORN 9,500 LUMEN	2	43	$ 13.75	$ 7.44	$ 347.42	$ 13.60	$ 612.00	*Estimated Rate for 60W LED Acorn*
82	150W HPS ACORN 16,000 LUMEN		62		$ 9.83	$ 609.46	$ 15.69	$ 972.78	*Estimated Rate for 70W LED Acorn*
83	250W HPS ACORN 27,500 LUMEN		9		$ 14.97	$ 134.73	$ 15.69	$ 141.21	*Estimated Rate for 70W LED Acorn*
						$ 1,091.61		$ 1,725.99	

As part of the conversion, staff and PGE are reviewing options to install an advanced control network that will allow City staff to control the light output of each fixture along Main Street near the proposed new Farmer's Market Site. This will allow us to implement a dimming protocol that will further reduce consumption of electricity, greenhouse gas emissions and prevent light pollution.

Staff has selected the PGE approved Top Mounted LED Wellington Ornamental Fixture for use in the Downtown.

7.7.

Well #2

CITY OF MILWAUKIE

WELL # 2

The City of Milwaukie obtains its base water supply from eight municipal supply wells. Of the eight wells, six are active (Wells #2 through #7), one is for emergency supply purposes (Well #8), and one is inactive (Well #1). Wells #2, #3 and #5 operate as single wellfield with a combined permitted production capacity of 2.1 million gallons per day, about 30 percent of current total City capacity.

The City recently discovered a crack in the well casing that extends along perforations on Well #2. Well #2 is expected to produce approximately 380 gallons per minute (gpm) which is about 25 percent of the expected wellfield capacity. The split casing has limited the production capacity of the well and has put it at risk of collapse.

The Public Works staff developed and solicited Requests for Qualifications (RFQ) in December of 2016 for engineering services related to Well #2. The RFQ requested professional services for the design, bidding and construction phases of the project. Tetra Tech was selected to provide all services. The fee for the design phase services totaled $198,213.

To maintain reliable wellfield productivity and meet system demand, Public Works staff and Tetra Tech reviewed options and determined that the best option is to relocate Well #2 on the existing site (see attachment 1). The existing Well #2, as well as the inactive Well #1, will be decommissioned during the construction phase.

During the design process, it was determined that presence, thickness and continuity of water-bearing zones beneath the wellfield site are not well understood. There are several contributing factors to this; the nearby wells #1, #2 and #3 are shallower than the proposed depth of the replacement well, the quality of driller's logs for those wells are poor, and the deeper Well #5 is located furthest from the replacement well location. There is enough uncertainty with the actual subsurface conditions at the replacement well location that it supported the need for a small-diameter 6-inch exploratory borehole to be drilled in advance of drilling and constructing the replacement well.

The information from the exploratory borehole will be used by the team to characterize the aquifer, evaluate and ensure its suitability for constructing a new deeper production well at the planned location to avoid potential higher costs during the drilling of the larger diameter boring for the production well, determine if there is any need to modify the design elements for the new well, and to complete the final design of and pre-order the well screen before drilling the production zone to avoid potential fixed front-loaded costs for stand-by drilling contractor during the screen's design, fabrication and delivery.

The design of the project is currently at the 90% phase with final review comments on the plans and specifications being provided by staff to the consultant. A Type I Community Service Use, Land Use Application has been submitted to the Planning Department for review with an expected approval the week of August 27. The current estimated opinion of probable cost from Tetra Tech for the work is $964,000 which includes a 10% contingency. Public Works staff expects to solicit bids for the work at the end of September/early October. Project is expected to begin in late Fall with an expected completion late Fall of 2019.

Public Works requested a fee proposal for the bidding and construction phases of the project from Tetra Tech in July 2018, and went through several discussions concerning the scope of work and fee, and negotiated the initial fee of $250,477 down to $219,900.

The scope of work will include bid assistance, project management, well development review and construction assistance services for the replacement of Well #2 on the existing site in the parking lot next to the old fire station. The construction phase of the project will include two contracts. Tetra Tech will be providing services for both contracts.

The first contract will be for drilling an exploratory well and final well. This includes design of the well screen, and providing the design information to adjust the pump sizing as necessary. It also includes well development and water quality testing of the new well location. The exploratory, production well drilling and testing program is anticipated to take 12 to 16 weeks.

This phase of the project will have a focused effort from Tetra Tech and their geotechnical subcontractor, GSI. GSI is expected to be on-site for 8 days during exploratory drilling and 10 days during production well drilling. The consultant has budgeted additional field time to oversee well screen installation, well development, pump testing, water quality monitoring, sampling and testing, well plumbness and alignment testing, well video survey, well disinfection, and wellhead completion. Approximately 60% ($131,565) of the engineering services cost are associated with this phase of work.

The second contract will be for construction of the new well building, pump installation, electrical, mechanical, controls and site work. Tetra Tech will provide construction inspection services for this phase as well.

7.8.

Water and Wastewater Rate Studies

CITY OF MILWAUKIE

WATER AND WASTEWATER RATE STUDIES

The goal of this project done by a contractor, is to obtain a comprehensive cost of service study, including independent assessment and evaluation of existing Water and Wastewater rates and provide recommendations to City on amount and structure of future rate designs. Financial objectives of the study are to assist City in adequately funding Water and Wastewater division operations, including capital costs and bonded debt. Study shall also assist City in developing a strategy to ensure current and future financial stability of the utility while minimizing rate impacts on customers.

The approach to this project was developed to meet the objectives of the City and with the contractor's prior experience in preparing Water and Wastewater divisions cost of service studies for publicly-owned utilities. The work plan is designed to meet the requirements and methodologies established by the American Water Works Association and American Public Works Association.

7.9.

SCADA Master Plan – Draft

CITY OF MILWAUKIE

SCADA MASTER PLAN

Supervisory Control and Data Acquisition (SCADA) Master Plan will identify changes and enhancements to the City's SCADA organization, practices and technology to keep it current with the State of the Art.

The City's consultant, Tetra Tech, has cultivated a proven methodology for developing a Master Plan to address Milwaukie's desired future state for their SCADA System:

- Establish key functional requirements in broad terms
- Identify solutions that address requirements
- Highlight the most appropriate solutions
- Develop cost and schedule requirements

The Master Plan will include recommendations for system improvements. Projects identified in the Master Plan will establish the level of effort budgets to enable the City of Milwaukie to create a schedule with supporting CAPEX.

Tetra Tech will engage the City of Milwaukie's personnel throughout this process to ensure the information exchange is accurate and reflects the utility's business, technical, and operational needs. It is Tetra Tech's responsibility to:

- Perform an accurate assessment of the existing system, organization, and practices.
- Provide education about the new trends within the SCADA industry.
- Identify applicable industry standards.
- Clearly establish the relationship between the desired system and the existing system.

SCADA Master Plan Components:

Cyber Security

Cyber Security is a primary focus of the City. The SCADA Vision is based on a secure network and operating foundation. The recommendations identified in the SCADA Master Plan must incorporate controls and capabilities identified in current leading SCADA/ICS cybersecurity guidance for water and waste water control systems, including:

- National Institute of Standards and Technology (NIST) Cybersecurity Framework
- AWWA Cyber Security Guidance Tool

- National Institute of Standards and Technology (NIST) SP800-82 Rev. 1 Guide to Industrial Control Systems (ICS) Security
- ISA/IEC-62443 (Formerly ISA-99) Industrial Automation and Control Systems Security, including TR99.00.02

Enterprise

Modern SCADA systems are multifaceted, providing important information to other Utility divisions to support their agendas. While these opportunities may not exist today, the marketplace will address these conditions with cost effective tools to make functional enhancements for support organizations to address the utility's vision for the future. Specific areas for investigation were identified during the visioning process. These were identified as:

- Automated reporting to support compliance requirements. Review the existing process and provide alternatives for an automated system to address compliance.
- Investigate the opportunity to develop a secure method of introducing manually entered data from different sources such as rounds data that does not have SCADA connectivity or data from other system sources such as LIMS.
- Review the functional requirements for reliability and redundancy. Investigate the applicability for onprem/off-prem redundancy to support high availability while addressing failure scenarios such as:
    - Pandemic- Where the control space cannot be occupied.
    - Crime Scene- Where the control space cannot be occupied.
    - Catastrophic Event -Where the control space has been destroyed.
    - Review the alternatives for sharing data with other Utility operations such as CMMS or ERP systems that are currently operable or will be operable within two years.

4.3 OPERATIONS

A significant challenge facing many Water and Wastewater Utilities is the sustainability for process operations. There are two sides to this challenge, new hires with a lack of process experience and those with extensive experience that are ready to retire. It is the utility's responsibility to address both of these organizational issues. Fortunately, there are tools to address these conditions. Operational assistance options should be investigated to ensure consistent response when abnormal conditions exist. Standard Operation Procedures (SOP) should be established to assist operators when rectifying process upsets and to establish a consistent response when emergency conditions occur.

The SCADA Master Plan should address:

- Workflow -Interactive analysis to assist operations in determining which control strategy to employ.
- Alarm rationalization- Examining the system to determine which alarms are important and those less important.
- Operator visualization - Ensure there is a "design guide" that defines the consistency for all future display development, operator intervention with the

system, and supervisory control over the system. Supervisory control can be executed by the HMI software package. Or control strategies exercised within the SCADA System or exterior with SCADA.

- Data availability for mobile staff- Calibration activity, campus wireless.
- Desire of automated reporting. Who gets data, what data gets delivered, what type of delivery requirement- email delivery.
- Operational Guidance Tools- Ancillary software- digital twin, predictive operations, AI, - Supervisory control assisted.
- Operational decision support- Ancillary software- machine learning, AI, predictive analysis- Supervisory control automated.
- System Consistency for reduced operating cost. Effort for standards development for system development and practices - Supervisory automation.
- Graphic Design Standards identifying navigation, alarm display, color, fonts, embedded trends, adhoc trending. Human factors design to improve operations interaction with the system - Revised HMI.
- No service interruptions. Design and integration of additional system components to improve availability – High availability, virtualization, distribute computing infrastructure, on-site.

4.4 MAINTENANCE

System maintenance requires technical support for many technologies. It is prudent to identify management tools and training available to assist maintenance staff in supporting SCADA components that are critical to system operation. This occurs at the system headend, the plant floor, and the network linking components together.

PLC logic is an intellectual property that is unique and has been developed over a long period of time. Consequently, this would be the most difficult and most costly to replace. The system requires review based upon the criticality and the ability for the utility to manage and or restore.

Areas for review include:

- Change Management. Regulated, documented, all required parties notified of changes in configuration/operations/managemenUregulatory-HMI/PLC/Aiarms/Aiarm rationalization.
- Sustainability of the system- component life/replacement, design obsolescence review, architecture/topology management for reliability and system improvement.
- Emergency response plan. Review disaster scenarios: pandemic, crime scene, catastrophic facility damage (fire, flood).
- Planning and execution for system upgrades.
- Disaster recovery of components, processes, plants, distribution. Develop process and validate before disasters occur- SOP, spare equipment requirements.
- Well Trained Technological staff for support of future technology. Optimize staff training and skills management with staff augmented support from third party vendors - Updated training to support selected system components/sub-systems.

7.10.

Stanley Tank Reservoir Improvement Project

CITY OF MILWAUKIE

STANLEY TANK RESERVOIR IMPROVEMENT PROJECT

The 3 million gallon (MG) Stanley Reservoir was constructed of welded steel in 1980 and sits on a concrete ring-wall foundation. The tank was last painted on the exterior with an overcoat of the original paint which is believed to be lead-based. Large areas of the coating have failed, leaving the welded steel exposed to corrosion. A dive inspection of the interior was conducted in 2015, and found minimal corrosion and some sediment accumulation in the bottom of the tank.

The City has budgeted for recoating the exterior of the tank in 2018, but would also like a contractor to investigate additional improvements at the Stanley Reservoir site including the following:

- *Seismic Assessment and Retrofits.* The tank is anchored to the foundation, is wider than it is tall, and geotechnical information does not indicate a high-groundwater table, granular soils, or other characteristics that would indicate an increased risk for liquefaction. The contractor will conduct an assessment of the existing tank to confirm compliance with current International Building Code seismic requirements.
- *Seismic Valve.* The 2010 Water Master Plan recommended the addition of a seismic valve on the tank. City has indicated that water is pumped from the ground level tank, and the low-pressure switch on the diesel-driven transfer pumps has been disabled, preventing the tank from draining out in the event of break in the distribution system. Further evaluation by the contractor may be necessary to determine if the risk has been eliminated, or if a seismic valve would still provide value during an emergency.
- *Improved Mixing and Turnover.* With the tank inlet and outlet located adjacent to each other, the tank may not be mixing adequately, with negative impacts on water quality. City has indicated that when filling the tank from the onsite Well #6, increases in chlorine concentration are observed at the Zone 3 Booster Pump Station, indicating that flow may be short-circuiting between the inlet and outlet.
- *New Security Fencing.* City desires higher fencing with visibility to discourage vandalism. Currently the fencing is hidden from the adjacent City park by trees planted along the fence line, which may require coordination with City Planning prior to modification.
- *Access Ladder Modifications.* Currently the hatch on the ladder swings downward, presenting a safety hazard for operators. New hatches on the City's elevated storage tank swing out to the side, and are preferable.
- *Building Repairs.* Dry rot has been discovered in the siding on both the Zone 3 Booster Pump Station building and the Well #6 building, and requires repair. The contractor's approach will be to conduct an initial assessment of the tank and structures, conduct a workshop with City staff to confirm the scope of the project, prepare contract documents for bidding, and provide engineering support during the construction of improvements.

7.11.

City Hall Renovations

CITY OF MILWAUKIE

CITY HALL RENOVATIONS

A design proposal was made by Myhre Group Architects in 2007 to convert the City Hall Garage Bay to chambers and court as well as add a rear entrance and garden at a cost of $887,000. Proposal was not pursued past the design phase.

2010: Ankrom Moisan Architects completed a Space Needs Study in 2010. The study anticipated growth as well as identified a need for closer proximity between City working groups. A number of methods were suggested to meet growth as well as proximity needs. Solutions included a City Hall addition (18,000 SF, $5 million), a new City Hall (40,000 SF, $12 million) or a Community Development addition (2500 SF, $370,000).

2011: In 2011, Group Mackenzie Architects reviewed both the Ankrom Moisan Space Needs Study and a Facility Condition Assessment performed by Faithful Gould in 2009. The Group Mackenzie Report estimated the cost of proximity inefficiency (primarily IT, Community Development, Engineering and Planning) at $187,000 per year. Based on the monetary cost of inefficiency, the growth rate of the City, the projected cost of upkeep on City buildings, as well as projected efficiencies gained in a new building, Group Mackenzie recommended the sale of our City Hall, and the construction of a new City Hall building at a cost of 10 million dollars.

The recent approval of the first phase of the Safe Access for Everyone (SAFE) program with its associated staffing requirements and Council's decision to hire an in-house attorney has resulted in the need for increased employee office space. The City Hall Garage Bay is underutilized as storage space and has potential for adaptive reuse to meet both the demand for more employee office space at City Hall and greater connection between departments. The proposed design involves relocation of Council Chambers and Conference Room downstairs to the Garage Bay, and the repurposing of the existing Conference Room and Chambers to office space.

The City of Milwaukie engaged Peterson Structural Engineers to perform a seismic assessment of both City Hall and the Public Safety Building (PSB). The resulting report confirms the City Hall structure was built to professional standards of the time. New standards are more stringent, but there are no conditions requiring immediate retrofit. The report made a few recommendations that directly inform the Garage Bay Project: if we intend to add a door in the garage bay, we should do so where there is an existing window to preserve shear strength, and we may want to add shear (plywood) to any walls we are opening anyway.

Staff's goal is to add space for up to 11 employees to City Hall. City employees will team with Di Loreto Architecture and use previous space studies as well as current feedback

to recommend which group(s) move to City Hall. The proposed method provides a low cost and high value solution, as well as near term relief. A previous Capital Improvement Plan (CIP) project, the update of the City Hall entry, has been rolled into the Garage Bay Scope to maintain consistent design elements within City Hall. The Facilities Department has established an architectural services contract with Di Loreto Architecture to provide pre-design schematic, design development, and construction documents. At the end of the design development stage we will be able to procure preliminary contractor pricing. We will use the construction documents to go out to bid for the construction phase.

Scope

Second Floor (Phase 1)

Reconfigure City Hall Conference Room

- 4-6 cubes, whatever fits easily, cube walls between workstations.
- 1 conference space for 4-6, cube walls okay.
- Likely need to temporarily repurpose the guest work space outside of City Recorder's office. The ultimate use of this space will be sorted out as part of the space needs study for phase 2.
- Cubes to be reused in phase 3.

First Floor (Phase 2)

- Reconstruct the 1,400 SF Garage Bay into City Council Chambers. Maintain usable bay doors with the redesign.
- Renovate the main reception desk area (approximately 400 SF)

Preliminary Design	approximately 6 weeks
Construction Drawings	approximately 4 weeks
Construction Completion	approximately 8 months, dependent on final design.

Second Floor (Phase 3) – Reconfigure City Council Chambers and other City Hall spaces (will follow space needs study that will begin in the fall).

- 8-10 cubes (includes the 4-6 above in phase 1).
- 3 additional walled offices.
- Addresses odd cube in finance.
- Media room moves downstairs.
- One 'medium' conference room upstairs, 10-12.

Project Schedule

2018

- June and July – Share information, identify alternative meeting locations and solutions, formalize Phase 1 project Scope.
- July 30th – City Hall Conference Room no longer available.
- August 1 – Begin City Hall Conference Room construction.
- August 7 – City Council Study Session moves to PSB.
- September 1 – Partial engineering staff relocation to City Hall.

2019

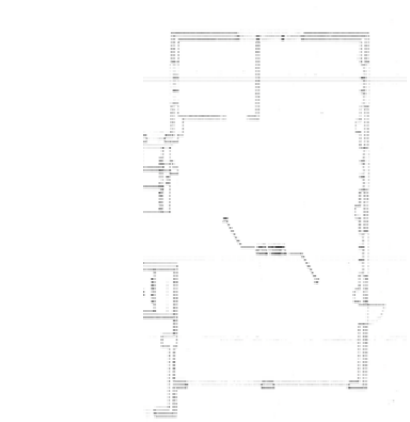
- April/May – City Council moves to Fire Bay.

- June – Council Chambers no longer available for meetings.
- September – Project completion. Remainder of Engineering team relocates to City Hall.

CITY OF MILWAUKIE

City Hall Garage Bay Renovation Update

July 17th, 2018



City Hall Garage Bay Renovation

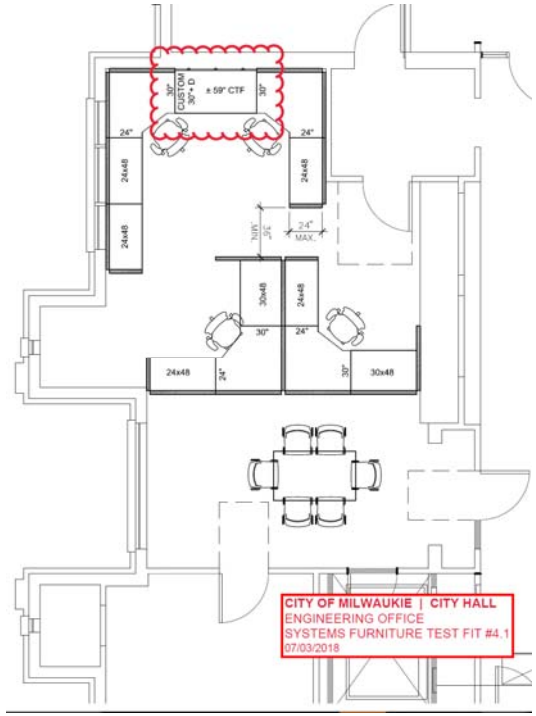
- Safe Access for Everyone (SAFE) program staffing requirements and new in-house attorney has resulted in the need for increased employee office space.
  - Staff's goal is to add space for up to 11 employees
- City Hall Garage Bay underutilized as storage space.
- Total project costs are estimated at $370,000 for the Garage Bay conversion.
- Additional $50,000 budgeted for the conversion of Council Chambers and Conference rooms to office space.
- The City of Milwaukie engaged Peterson Structural Engineers to perform a seismic assessment of City Hall.
  - Garage Bay has non structural deficiencies that will need addressed
    - Fire Suppression Piping Bracing
    - Independent Light Fixture Support

City Hall Garage Bay Renovation

- The Project involves relocation of Council Chambers and Conference Room downstairs to the Garage Bay, and the repurposing the existing Conference Room and Chambers to office space.
- Facilities has established an architectural services contract with DiLoreto Architecture to provide
  - Pre-design Schematic
  - Design Development
  - Preliminary Contractor Pricing
  - Construction Documents

Scope: Second Floor Phase 1

- Reconfigure City Hall Conference Room
  - 4-6 cubes, whatever fits easily, cube walls between workstations.
  - 1 conference space for 4-6, cube walls okay.
  - Likely need to temporarily repurpose the guest work space outside of City Recorder's office.
    - The ultimate use of this space will be sorted out as part of the space needs study for phase 2.
  - Cubes to be reused in phase 3.



First Floor

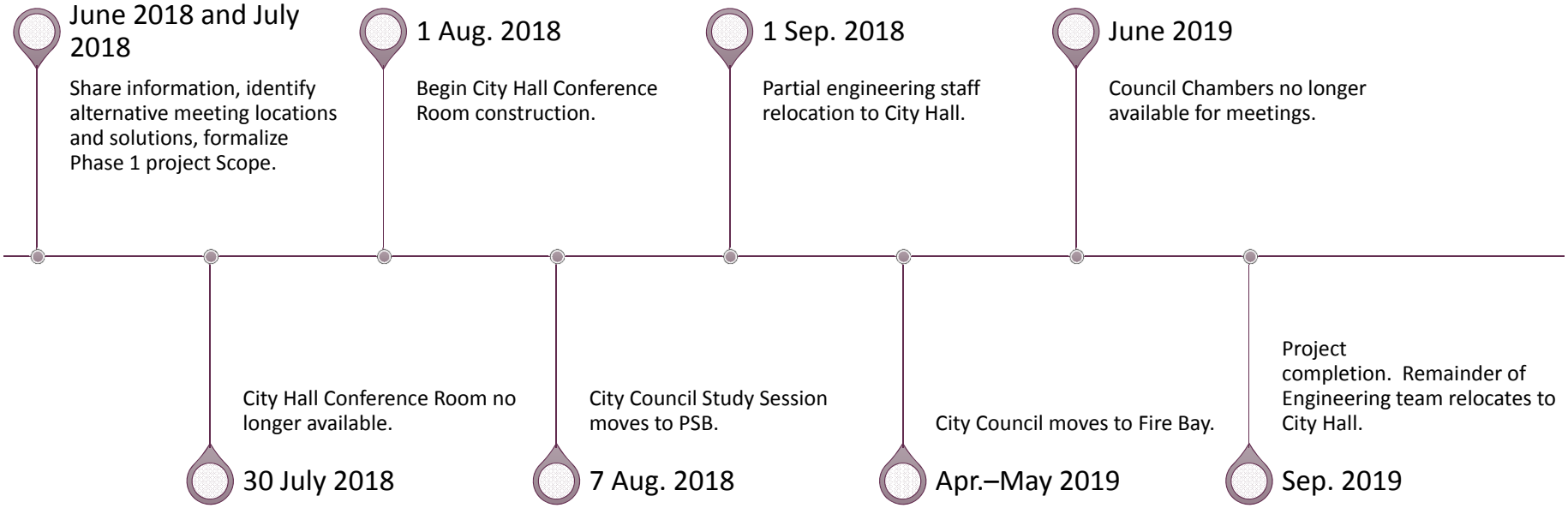
Phase 2

- Reconstruct the 1,400 SF Garage Bay into City Council Chambers.
  - Maintain usable bay doors with the redesign.
- Renovate the main reception desk area (approximately 400 SF)

Second Floor Phase 3

- Reconfigure City Council Chambers and other City Hall spaces.
  - 8-10 cubes (includes the 4-6 above in phase 1).
  - 3 additional walled offices.
- Addresses office space in finance.
- Media room moves downstairs.
- One ‘medium’ conference room upstairs, 10-12
- Initial Space Needs Assessment Completed
  - Further Refinement for final configuration needed
- Moderate Phase 3 design component for walled office spaces

Project Schedule



Coordination Issues and other concerns

- Meeting Space Options and Scheduling
  - City Council - PSB
  - Committee Meetings
  - Staff Meeting
- Court Operations
- Staff Parking
- Secure Bike Parking
- Accessibility

8. Finance

8.1.

Local Budgeting in Oregon

Local Budgeting in Oregon

OREGON DEPARTMENT OF REVENUE

150-504-400 (Rev. 02-14)

OREGON DEPARTMENT OF REVENUE

Local Budgeting in Oregon

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PO Box 14380
Salem OR 97309–5075

150-504-400 (Rev. 02-14)

Local Budgeting in Oregon is a supplement to the *Local Budgeting Manual* (150-504-420), hereafter called the *Manual.* This booklet will introduce you to the requirements of Oregon's Local Budget Law, but it is not a substitute for the *Manual.* Before you take any formal action in the budget process, consult the *Manual.*

First, the basics

What is the law?

Most local governments in Oregon, from the smallest cemetery district to the largest city, must prepare and adopt an annual or biennial budget. (The only exceptions are a few types of local governments specifically exempted.) Schools, counties, cities, ports, rural fire protection districts, water districts, urban renewal agencies, and special districts are all subject to the same budget provisions.

This is not unusual. Many states have specific laws which require units of local government to prepare and adopt annual operating budgets. Yet, Oregon's budgeting system is considered one of the most progressive in the nation. Why?

Look at Oregon's Local Budget Law. (You'll find it in Chapter 294 of the Oregon Revised Statutes.) The law does two important things:

1. It establishes standard procedures for preparing, presenting, and administering the budget.
2. It requires citizen involvement in the preparation of the budget and public disclosure of the budget before its formal adoption.

Many people rely on you, as an elected or appointed official, to see that the annual budget is prepared correctly. State officials check to see that the budget is prepared and administered according to law, and citizens in your district check to see that programs they want and need are adequately funded. This makes budgeting in Oregon a joint effort between the people affected by the budget and the appointed and elected officials responsible for providing the services.

To give the public ample opportunity to participate in the budgeting process, local budget law requires that a budget officer be appointed and a budget committee be formed. The budget officer draws together necessary information and prepares the first draft of the budget. The budget committee then reviews and revises the proposed budget before it is formally approved. Notices are published, budgets are made available for public review, and at least two opportunities for public comment are provided. These requirements encourage public participation in the budget-making process and give public exposure to budgeted programs and fiscal policies before their adoption.

Naturally, citizen involvement varies from one community to the next. If the patrons in your district are active and involved, you may find citizens asking for information not specifically required under local budget law. It is up to your local government to prepare a budget that clearly outlines its fiscal policies and is satisfactory to the voters of the district. If you can make your budget clear and concise, you'll find that taxpayers have a better understanding of the purposes for which their tax dollars are spent. You may also find the citizen input informative and beneficial.

What is a budget?

A budget is a financial plan containing estimates of expenditures and revenues for a single fiscal year (July 1 through June 30).

Note: Local governments have the option of budgeting on a 24-month "biennial" budget period or by fiscal year. For the differences entailed in biennial budgeting, see page 8. Throughout this booklet, we refer to "fiscal year" but if a local government adopts a biennial budget, the period referred to is a 24-month period.

Besides outlining programs for the coming year, the budget controls the local government's spending authority. Since the budgeting process encourages citizen input, the budget is also a vehicle for obtaining public opinion about proposed programs and fiscal policies of your district.

The content and detail of each budget will vary substantially because of differences in the purpose, size, and complexity of local governments.

Who is on the budget committee?

The budget committee consists of the members of the local governing body (such as county commissioners or school board members) and an equal number of citizens at large. The citizens are appointed by the governing body and serve terms of three years. Terms are staggered so that about one-third of the appointed terms end each year.

Note: For most of the districts in Multnomah County, because the Tax Supervising and Conservation Commission (TSCC) holds the budget hearing, the governing body is the budget committee and there are no appointive members. These districts should consult with the TSCC about their processes. This publication addresses the budget committee process for all other districts in the state.

The budget cycle

The nine steps

Budgeting is not something you do once a year. It's a continuous operation, and it takes 12 months to complete a cycle. The budgeting process is actually in three parts: The budget is prepared, approved, and finally adopted. Your budget must be prepared far enough in advance so that it can be adopted before June 30. After adopting the budget, the governing body will make the necessary appropriations and certify the tax levy to the county assessor.

To simplify this rather complex process, we've divided budgeting into nine steps.

Preparing the budget

1. **Budget officer appointed.** Each local government must have a budget officer, either appointed by the governing body or designated in the local government's charter. The budget officer is under the supervision of either the executive officer or the governing body.
2. **Proposed budget prepared.** The budget officer is responsible for preparing or supervising the preparation of the proposed budget for presentation to the budget committee.

Approving the budget

3. **Budget officer publishes notice.** When the proposed budget and the budget message are ready, the budget officer publishes a "Notice of Budget Committee Meeting." If notice is only published in a newspaper of general circulation, it must be published at least twice, five to 30 days before the scheduled budget committee meeting date. The notice may be published once in a newspaper (five to 30 days prior to the scheduled budget committee meeting) as long as it is also published on the local government's website at least 10 days before the meeting. The newspaper notice must include the website address. If notice is hand delivered or mailed, only one notice is required not later than 10 days prior to the meeting.
4. **Budget committee meets.** At least one meeting must be held to 1) receive the budget message and budget document, and 2) hear the public. The budget officer provides a copy of the proposed budget to each member of the budget committee. The copies may be distributed any time before the advertised budget committee meeting. It is also acceptable to wait and distribute the budget at the advertised meeting. When the budget is given to the budget committee, it becomes a public record and must be made available to the public.

   The budget committee members cannot get together in person, by telephone, or email before the advertised meeting to discuss the budget. All budget discussions must be held at public meetings.

   At the budget committee meeting, the budget message is delivered. The budget message explains the proposed budget and significant changes in the local government's financial position. At this meeting, the budget committee may provide members of the public the opportunity to ask questions about or comment on the budget. If public comment is not allowed at this meeting, the budget committee must provide the public with the opportunity at subsequent meetings.

   After the initial meeting, if needed, the budget committee may meet as many times as needed to revise and approve the budget. If two or more meetings are held to take comment from the public, only the first meeting to do so must meet the publication requirements explained in step 3. Notice of additional meetings for this or any other purpose may be provided in the same time frame and manner as notices of meetings of the governing body. Notice of other meetings of the budget committee must be provided as required by Oregon public meeting law. All meetings are open to the public.
5. **Committee approves budget.** When the budget committee is satisfied with the proposed budget, including any additions to or deletions from the one prepared by the budget officer, the budget is approved. If the budget requires an ad valorem tax to be in balance, **the budget committee must approve an amount or rate of total ad valorem property taxes to be certified to the assessor.**

Advertising and holding hearings

6. **Budget summary and notice of budget hearing published.** After the budget is approved, a budget hearing must be held by the governing body. The budget officer must publish a summary of the budget approved by the budget committee and notice of budget hearing five to 30 days before the scheduled hearing. This information must either appear in a newspaper of general circulation, be mailed, or be hand delivered.

   If no newspaper is published in your district and estimated expenditures for the ensuing year do not exceed $100,000, you may provide the budget summary and notice of budget hearing by posting it in three conspicuous places within the district for at least 20 days prior to the date of the hearing.

   See the *Manual* for details on publication requirements.

7. **Budget hearing held.** The budget hearing must be held by the governing body on the date specified on the public notices.

   The purpose of the hearing is to receive citizens' testimony on the budget approved by the budget committee. Additional hearings may be held. All hearings are open to the public.

Adopting the budget

8. **Budget adopted, appropriations made, tax levy declared and categorized.** By law, the governing body may make changes in the approved budget before or after it is adopted, but no later than the beginning of the fiscal year to which the budget relates. However, without first publishing a revised budget summary and holding another budget hearing:
   - Taxes may not be increased beyond the amount approved by the budget committee, and
   - Estimated expenditures in a fund may not be increased by more than $5,000 or 10 percent, whichever is greater.

   After the budget hearing, and after considering relevant testimony, the governing body adopts the budget. **It should not be formally adopted until the latter part of June** so last-minute revisions to revenue or expenditure estimates can be incorporated.

   The governing body must enact a resolution or ordinance to 1) formally adopt the budget, 2) make appropriations, and if needed, 3) levy, and 4) categorize any tax. The budget is the basis for making appropriations and certifying the tax levy. The resolution or ordinance must be adopted no later than June 30. See the *Manual* for the format of the resolution or ordinance.
9. **Budget filed and levy certified.** The final step in the budget cycle is to certify any necessary property tax levy.

   Districts levying a property tax must submit to the county assessor's office on or before July 15:
   - Two copies of notice of levy and the categorization certification, and
   - Two copies of the budget resolution or ordinance.

   Each local district that does not levy a property tax must send a copy of the resolution adopting its budget and making appropriations to the Department of Revenue on or before July 15. All local districts send a copy of the complete budget to the county clerk on or before September 30. School districts also submit a copy of the budget to the county education service district office and to the Oregon Department of Education.

The budget document

All budgets must meet certain minimum requirements, outlined here. For specific examples consult the *Manual*.

Under local budget law the budget must follow a basic format. Expenditures generally are broken down first by fund, then by organizational unit or program, and then, more specifically, by object classification and object. Revenues are broken down by fund, at the least.

What is a fund?

A fund is a fiscal and accounting entity with self-balancing accounts set aside to carry on a specific activity or to meet certain objectives in accordance with a specific regulation. The requirements and resources of a fund must always balance. Every budget has at least one fund (commonly called the General Fund) which is used for everyday operation of the local government.

Depending on the size and complexity of your local government and the services it provides, your district may also have a number of special funds. The most common reason for establishing a special fund is to account for a revenue source whose use is limited to a particular kind of expenditure. Examples include: debt service funds, construction funds, reserve funds, street funds, water funds, and sewer funds.

What is an organizational unit?

Some funds are broken down to account for one or more organizational units or activities, which are merely subdivisions of a fund. An organizational unit might be a department, office, or division. What you call these units is up to your local government.

What is a program?

Budget requirements may be prepared by program. Programs are groups of activities to accomplish a major service or function. Schools use programs in budgeting.

Budget format

Your budget detail sheets for expenditures and revenues must show in parallel columns:

1. Actual expenditures and revenues for two years preceding the current year.
2. Budgeted requirements and revenues for the current year.

3. Estimated requirements and revenues for the coming fiscal year. Upcoming fiscal year estimates should be broken into three columns: proposed, approved, and adopted, showing estimated amounts as they are considered through each step of the budget process.

Information in each column must be itemized to show all estimated or incurred requirements and revenues.

Revenues

Budget revenues are divided into two types: ensuing year property tax and nonproperty tax revenues. Property taxes shown in your budget will not be the same as the property tax "levy" you submit to the assessor.

There are three reasons for this. First, not all taxpayers pay their taxes in the year billed. Second, discounts are given for timely property tax payments. Third, the Oregon Constitution sets a limit on the amount of taxes that can be collected from an individual property.

You must estimate the amount of taxes to be lost because of the "constitutional limits" and "discounts allowed and other uncollected amounts."

The total of these amounts plus estimated taxes to be received cannot exceed your district's taxing authority, which includes its rate limit, voter approved local option levies, and levies to repay bonded debt. This total is the amount of tax levy that is certified to the assessor.

The amount estimated as "loss due to constitutional limit" will vary from district to district. Late in October or early November each year, the tax collector sends the district a report on the amount of taxes that will actually be billed for the district. This is called the taxes imposed.

"Discounts allowed and other uncollected amounts" normally will represent only a small percentage of the property tax levy. Contact your county tax collector for help in determining this percentage.

You next need to calculate how much tax revenue can be raised using the district's permanent rate limit.

Rate Limit

times

Estimated District Assessed Value

equals

Amount Raised By Rate Limit

This amount plus any local option taxes or bond levies, less the estimate of taxes to be lost, is the amount of tax revenue estimated to be received. If this amount is less than the amount needed for the budget, requirements must be reduced, other sources of revenue found, or additional taxing authority approved by voters.

Expenditures and requirements: by fund

Under the law, budget expenditures and other requirements must be itemized to show all estimated expenses. The estimates may be prepared either by program or organizational unit. Within any fund each expenditure must be detailed and identified, arranged by organizational unit if applicable, and put into one of these major object classifications:

- **Personnel services** includes all salaries, fringe benefits, and miscellaneous costs associated with salary expenditures.
- **Materials and services** includes contractual and other services (example: audit or legal services), materials, supplies, and other charges.
- **Capital outlay** includes acquisition of land, buildings, improvements, machinery, and equipment.

Some special expenditures and requirements do not fit logically into one of these three object classifications. These are put in special categories. The most common special categories are:

- **Debt service** includes repayment of principal and interest on bonds, interest-bearing warrants, and short term loans.
- **Transfers.** An amount to be given as a resource to another fund in the budget.
- **General operating contingencies.** A special amount set aside in the upcoming year for unforeseen expenses.
- **Unappropriated ending fund balance.** A special amount set aside in a budget for use as a resource in the beginning of the next fiscal year after it was budgeted.

Expenditures and requirements: program budgets

Program budgets are prepared differently. Estimates for each program must be arranged by activity and then put into separate object classifications, as already described.

Taxes and budgeting

Many local governments rely heavily on property taxes to finance services they offer. In some cases, services are paid for entirely by property taxes.

The amount and type of tax a local government may levy is limited by the Oregon Constitution and Oregon law. The constitution allows a local government to levy annually the amount that would be raised by its permanent rate limit without further authorization from the voters. Revenue from the permanent rate–limited levy can be used for any purpose.

When a local government has no permanent rate limit or when the rate limit does not provide enough revenue to meet estimated expenditures, the government may request a local option levy from the voters. These levies are in excess of the rate limit and require voter approval. Currently, ESDs cannot use the local option tax. Schools and community colleges can use the local option tax, but the amount they may request is limited.

A local option can be used for general purposes or a specific activity. The levy may be stated as a total dollar amount or rate to be levied uniformly for a period. If the levy is for an operating purpose, the period cannot exceed five years. If the levy is for a capital project, the period cannot exceed 10 years or the life of the capital asset, whichever is less.

A debt service levy is used only to pay principal and interest on bonds. The constitution does not require voters to approve this type of levy each year. That's because voter approval of a bond issue is considered approval of levies necessary to repay bond interest and principal.

By law, some local governments are limited on the total amount of tax they may levy. These limits are computed as a percentage of a local government's property value. For specific examples, consult the *Manual* or the Department of Revenue, Finance and Taxation Unit.

Tax levies not made according to law may be voided by an appeal to the Oregon Tax Court. Appeals can be made by the county assessor, county court, board of commissioners, Oregon Department of Revenue, Tax Supervising and Conservation Commission, or 10 or more interested taxpayers. An appeal must be submitted within 30 days after the local government certifies the tax levy to the county assessor.

In addition, since 1991, the Oregon Constitution has limited the amount of taxes that may be imposed on any property. For any property, the maximum amount of taxes to support the public school system is $5 per $1,000 of real market value. The maximum amount of taxes to support other government operations is $10 per $1,000 of real market value. Certain types of taxes may not be subject to the limit. See the *Manual* for further information.

Elections and budgeting

Many local governments find that available revenues, including revenue from levies made under the permanent rate limit, are not enough to finance proposed expenditures. In this case, there are two alternatives:

1. Lower the proposed expenditures to equal available revenues, or
2. Schedule a tax levy election to obtain voter approval to levy a local option tax.

All local governments that decide to schedule a levy election are limited to four election dates each year. The levy election must be on one of these dates.

See your county elections officer for more information. The county elections officer publishes election notices, sample ballots, and a list of polling places.

Election dates

- Second Tuesday in March
- Third Tuesday in May
- Third Tuesday in September
- First Tuesday after the first Monday in November

Even if the voters have not yet approved the tax levy before the end of the fiscal year, the governing body must adopt the budget and make appropriations by June 30 to lawfully spend public funds in the new fiscal year. When the district is planning on a tax levy election in September, it must request in writing from the county tax assessor an extension to certify its tax levy. When the tax levy is finally determined, the governing body adopts the resolution to levy taxes and submits its final levy certification to the assessor. If the late levy election failed, the governing body must reduce its budget appropriations to reflect the amount of taxes it actually has authority to levy.

Tax levy ballot language sometimes must contain certain wording or statements required by law or must not exceed other limits. For more details, see the *Manual*, or download a copy of the *Tax Election Ballot Measure Manual* (150-504-421).

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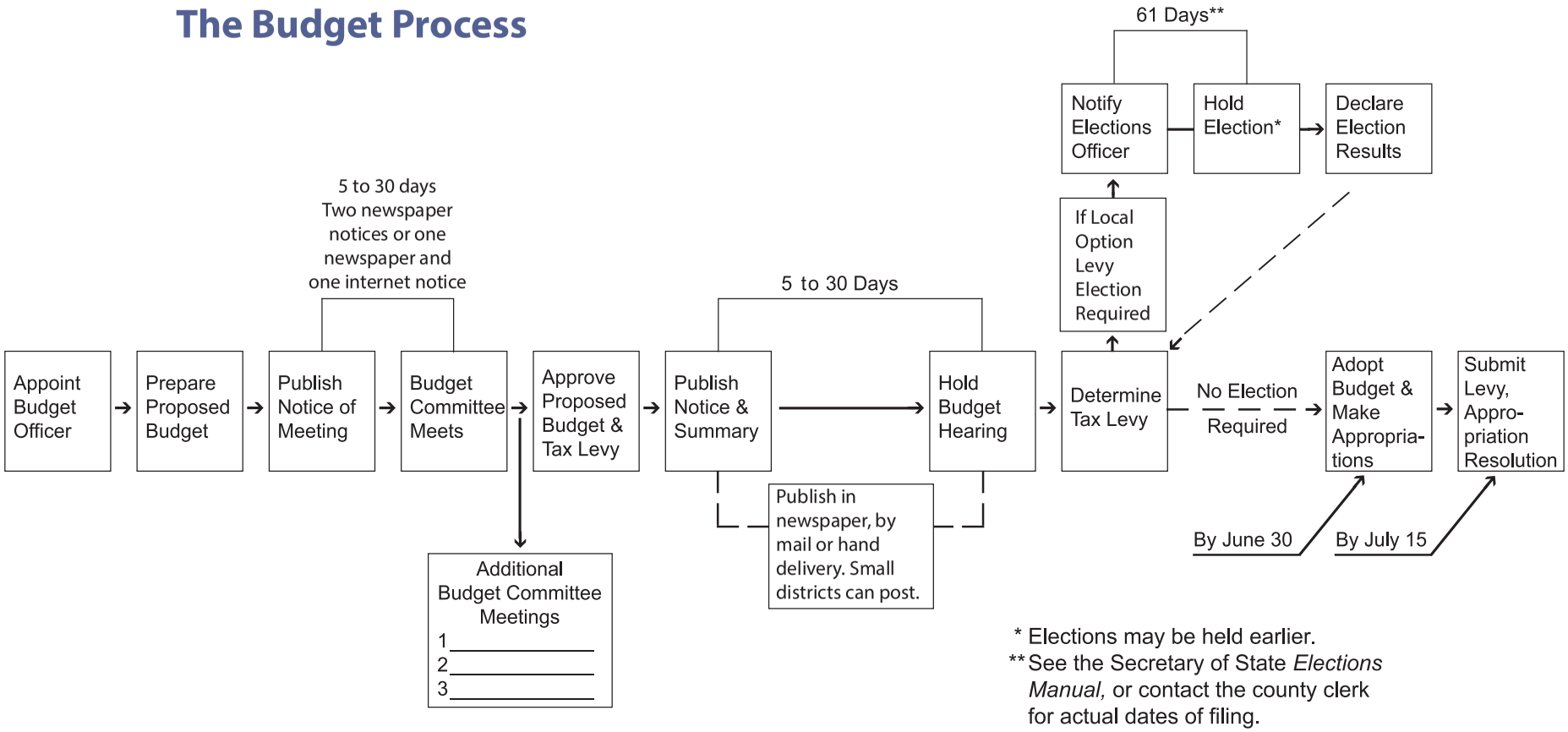
The Budget Process



* Elections may be held earlier.

** See the Secretary of State *Elections Manual,* or contact the county clerk for actual dates of filing.

Appropriations and their use

When the nine budget steps are completed and the new fiscal year begins, the governing body works from appropriations. Amounts listed in the appropriation resolution provide authority to spend public funds in the next 12 months. However, appropriations may be made in broader categories than the detail presented in the budget.

District spending is limited to the schedule of appropriations. But what if it is necessary to exceed original appropriations? This may be done after transferring appropriations or preparing a supplemental budget. There are special provisions for exceeding appropriations due to civil disturbance, fire, flood, earthquake, or other calamity.

Appropriation transfers

The governing body's spending authority in existing appropriations may be changed by 1) transferring amounts among existing appropriations in the same fund, or 2) transferring from an existing appropriation in one fund to an existing appropriation category in another fund.

Whenever you need to transfer an appropriation, the governing body must enact a resolution or ordinance providing for the transfer. This enactment must be made before any overexpenditure is incurred. Once a transfer is authorized, the expenditures can be made.

Supplemental budgets

By transferring appropriations, a governing body usually has enough flexibility to carry out the programs prescribed in an adopted budget. But there will be times when an adopted budget gives no authority to make certain expenditures or when revenues are received for which the governing body had no previous knowledge. In these cases it is possible to use a supplemental budget to authorize expenditures or spend additional revenues in a current fiscal year. (There are a few special revenues which may be spent without a supplemental budget.) Supplemental budgets cannot be used to authorize a tax levy.

Local budget law does not contemplate the involvement of the budget committee in adopting supplemental budgets. The governing body may adopt a supplemental budget at a regular public meeting if prior notice is given and the expenditures in the supplemental budget are 10 percent or **less** than of the budget fund being adjusted. If the expenditures are more, the governing body must publish a summary of the changes in the supplemental budget and hold a special hearing.

Public officials who spend money unlawfully, in excess of authorized amounts or for purposes not provided by law, are civilly liable. The district attorney or a taxpayer may file suit for return of the money.

For more details, see Oregon Revised Statute 294.471 or the *Manual*.

Audits

The final phase in the budgeting cycle is an audit of the previous fiscal year. This usually is done soon after a new fiscal year begins. Most local governments are subject to Oregon's Local Budget Law. Most of these governments are required to have their accounts and fiscal affairs audited and examined annually.

An audit must be done by the Secretary of State or an auditor certified by the Oregon State Board of Accountancy to conduct municipal audits. The auditor examines financial statements, books, records, and other financial data of your local government. The auditor also will look at any activities that relate to collection, receipt, custody, handling, expenditure, or disbursement of public funds.

Contact the Secretary of State's office, Audits Division for further explanation or questions.

Biennial budgeting

Local governments may budget either on a one-year (fiscal year) or a two-year (biennial) cycle. The governing body may, by ordinance, resolution, or charter, provide that the budget be prepared for a period of 24 months. The biennial budget period begins July 1 and ends June 30 of the second following calendar year. In brief, the differences between fiscal year budgeting and biennial budgeting are:

1. Members of a budget committee who prepare a biennial budget are appointed to four-year terms. The terms of the members should be staggered so that one-fourth of the terms end each year.
2. The budget estimate sheets containing the estimates of resources and expenditures in a biennial budget must show:
   - Actual expenditures for the two budget periods preceding the current budget period,
   - The estimated expenditures for the current budget period, and
   - The estimated expenditures for the ensuing budget period.
3. The summary of the budget as approved by the budget committee that is published along with the notice of the budget hearing will show the proposed budget for a two-year period.
4. If a taxing district adopts biennial budgeting, the budget committee must approve the amount or rate of ad valorem property taxes for each year of the biennium.
5. After the budget committee approves a biennial budget and before the budget is adopted, the governing body may not increase the amount of estimated expenditures for the biennium in any fund by more than $10,000 or 10 percent, whichever is greater, and may not increase the amount or rate of the tax levies approved by the budget committee for either year of a biennial budget unless the amended budget document is republished and another budget hearing is held. Once the budget is adopted, the tax amount cannot be increased in the second year.
6. If a district adopts a biennial budget, then after the budget hearing and before the June 30 that precedes the start of the budget period, the governing body must pass a resolution or ordinance to adopt the budget and make appropriations for the ensuing 24-month budget period. The governing body must also pass a resolution or ordinance to levy and categorize property taxes for each year of the ensuing budget period.

7. Whether a budget is for a fiscal year or for a biennium, certification of property tax levies and a copy of a resolution or ordinance levying and categorizing taxes for the ensuing year must be submitted to the county assessor every year by July 15.
8. Districts that must submit their budgets to the Department of Revenue or to the Tax Supervising and Conservation Commission must do so only during the first year of a biennial budget period.

Questions and answers

What is a budget committee?

The budget committee is the district's fiscal planning advisory committee. The committee consists of the elected governing body members and an equal number of qualified district voters appointed by the governing body.

Who can serve on a budget committee?

Any qualified voter of the district appointed by the governing body except officers, agents, or employees of the district.

Are budget committee members paid for their work?

Budget committee members cannot receive any compensation for serving as committee members. They may be eligible to receive reimbursement for travel or meal expenses that are incurred as a result of meetings or other authorized committee functions.

How long do members serve?

Citizen budget committee members are appointed by the governing body for three-year terms. Terms are staggered so that approximately one-third of the terms expire each year. Members may be re-appointed for successive terms. If a member resigns, becomes ineligible, or is unable to serve out his or her term of office, the governing body appoints a replacement to complete the term. There is no provision in the law for "alternate" members.

What if no one will serve on the budget committee?

If the governing body is unable to appoint qualified individuals to vacant positions, the budget committee may function with a reduced number of members. For example, if a five-member governing body, after making a good faith effort to seek qualified citizen members, can fill only three of the appointed positions, the budget committee can function with eight members rather than ten. A majority would then be five instead of six. The membership may not be reduced because governing body positions are currently vacant.

Who are the budget committee officers?

Only a presiding officer position is required by law. The presiding officer's duties are to chair budget committee

meetings. The chair can be either an elected or appointed member. Some districts may elect a vice chair to conduct meetings in the presiding officer's absence. The committee should also designate someone to be responsible for keeping an official record of its proceedings. All members of the budget committee have the same degree of authority and responsibility.

What is the budget committee's main function?

In a series of public meetings the budget committee meets to review, discuss, make additions or deletions, and approve the proposed budget presented by the local government's budget officer. Upon completion of its deliberations, the committee approves the budget and sets the tax rate or amount needed to balance the budget.

What are the rules about budget committee meetings?

Budget committee meetings are open to the public. A quorum is required to conduct committee business. A majority of the budget committee membership is required to approve any motion.

Minutes of each meeting are kept. The minutes are the official record of budget committee meetings. It is important that minutes are accurate. The budget process is required by law and districts may need to document that the process was in compliance with state statutes. The approval of the final budget document and the rate or amount of tax to be imposed, in particular, should be in the form of motions with the votes recorded in the minutes.

What happens at the first budget committee meeting?

Generally, the budget committee elects a chair and other officers, receives the budget message, hears patrons, sets dates for future meetings, and adopts rules of order. These rules should establish an operating procedure for the budget review process. The committee may adopt Robert's Rules of Order or establish its own. In any event, the budget committee needs to discuss and agree upon a procedure. The committee may not adopt any rule which would allow it to take official action with approval of less than a majority of its members in agreement.

What happens at subsequent budget meetings?

Generally, the second and other subsequent meetings take place at least one week after the first meeting. This practice allows budget committee members to review the proposed budget document. Budget committee members may wish to make arrangements with the district administrator and/or budget officer to visit district operations during this week, make inquiries about specific budget items, request additional information, or indicate areas of interest they believe should be highlighted at future meetings. In subsequent meetings, the entire budget is reviewed fund by fund and/or section by section.

At least one meeting must provide the opportunity for the public to ask questions and make comments about the budget. Notification of the first budget committee meeting in which public questions and comments will be heard is required in a newspaper of general circulation, by a first-class mailing to every street address or P.O. box in the district, or by hand delivery to every street address. See Chapter 9 of the *Manual* for more detail on publication requirements.

How many meetings are required?

The number of meetings required varies from year to year and with the unit of government. Some districts meet only once, others may need to meet several times. Factors such as the detail in the budget documents, size of the district, number of funds, presentation of the budget, and the personalities of individual budget committee members will result in various numbers of meetings.

When will I get a copy of the budget?

The budget officer provides copies of the proposed budget at or before the first budget committee meeting, when the budget message is presented by the executive officer.

What other information is available to the budget committee?

The budget committee may request any information required during consideration of the proposed budget from any district officer or employee. The budget committee may also require staff members to attend budget committee meetings. Such requests by the budget committee should be made through the chief administrative officer of the local government and/or budget officer.

How is the material that is presented by the budget officer at the first meeting prepared?

The budgeting process is a continuous cycle that generally begins long before the budget committee meets. Each district has its own procedures for budget review and development. In larger districts, each part of the organization may have its own budget preparation process, in which funding requests for the upcoming fiscal year are developed and then "rolled up" into the total agency budget requirements. By the time the budget committee receives the budget message and budget document, many hours of work have been put into budget development. The budget officer coordinates these efforts with district staff and other administrators.

What is a quorum? What happens if we don't have a quorum at a budget committee meeting?

A quorum is one more than half the total number of the members. If a quorum is not present, the members who

are present may discuss committee business, but no action may be taken.

What if we have a quorum, but cannot get a majority of the members of the budget committee to approve the budget?

Any action by the budget committee requires approval by a majority of the entire committee. For example, if the budget committee has ten members, six are present at a meeting (a quorum), but only five of the six present agree with a motion to approve the proposed budget, then the motion does not pass. It is up to the budget committee to negotiate a budget and tax that is acceptable to a majority of its members.

May I ask questions other than at budget committee meetings?

It could be very helpful and a courtesy to other budget committee members if inquiries are not restricted to committee meetings. Checking with the administrator and/or budget officer between meetings allows members to explore budget items of interest in greater detail than might be practical during committee meetings. Questioning also assists the administration/budget officer by giving an indication of concerns, making it possible to highlight issues that may be of interest to the entire budget committee.

Can I consult with other budget committee members about details in the budget other than at budget committee meetings?

Discussion of the budget committee must always take place in the forum of a public meeting. One of the reasons Oregon uses the budget committee process is to ensure public comment and full disclosure of budget deliberations. It is much better to abide by the spirit of the law and hold **all** discussions at budget committee meetings.

Can the budget committee add or delete programs or services?

Generally, the budget committee's role is not to directly establish or eliminate specific programs or services. Standards and budget parameters established by the governing body give the budget officer and administrative staff general guidelines for budget development. The budget officer then prepares a budget which reflects the governing body's parameters. This proposed budget is what the budget committee considers during its meetings. Budget committee influence on programs and services is most often exerted at a higher level, when it approves the overall budget and establishes the tax levy.

Having said all that, if a majority of the budget committee agrees, it can add or delete funding for specific services. Public participation at budget committee meetings may influence budget committee decisions. However, final authority for administration rests with the governing body. The governing body can make changes after the budget committee has approved the budget, although they may have to re-publish the budget and hold another public hearing to do so.

Can the budget committee determine how much an employee is paid?

The budget committee does not approve new personnel, employee contracts or salary schedules, nor does it negotiate salary contracts.* However, the adopted salary schedules, negotiated contracts, and other materials that have a fiscal impact on the budget document may be requested for review by the budget committee. Through its authority, the budget committee may direct the administration to make dollar adjustments (increases or decreases) in the proposed budget.

What happens after all the sections of the budget are presented?

After all presentations are made, all patron input received, and all other related issues discussed, the budget committee approves the budget. The approved budget recommends a level of spending for the year. The approved budget document also specifies the full amount of the property tax levy authority that may be certified to the tax assessor. The governing body may reduce the levy, but the rate or amount of the levy approved by the budget committee cannot be increased without republishing the financial summaries. Approval of the tax levy and the budget should be in the form of a formal motion, with the vote recorded in the minutes of the meeting.

Does the budget committee have any other duties?

At the end of the final meeting where the budget is approved, and the tax levy rate or amount is established, the committee's work is finished as far as local budget law is concerned. Local charters may have additional duties. Frequently, budget committee members express a desire to assist the governing body and administration in any public meetings or appearances concerning the budget. The budget committee may be reconvened by the governing body at a later date in the event the financial conditions in the district change. A meeting for this reason is called at the discretion of the governing body and is not a requirement of the local budget law.

*Note: ORS 204.126 says the county budget committee or TSCC approves changes in the salary of elected county officials.

After the budget is approved by the budget committee and recommended to the governing body, what action does the governing body take?

The governing body must publish a financial summary of the budget that was approved by the budget committee. The notice of the budget hearing is also published with the financial summary. At the public hearing, the governing body hears any citizen input on the approved budget. The governing body may make additional adjustments to the budget that was approved by the budget committee. Following the hearing and no later than June 30, the governing body must adopt the budget, make appropriations, and set the property tax levy rate or amount. If a property tax is required, the governing body must certify the tax to the county assessor no later than July 15.

What if the governing body changes the budget approved by the budget committee in ways that the budget committee does not approve?

The governing body has that right. However, the amount of the estimated expenditure for each fund may not be increased more than 10 percent unless a summary of the revised budget is again published and another public hearing is held. In addition, the total property tax to be levied may not exceed the amount or rate shown in the budget that was approved by the budget committee and published with the notice of the budget hearing without once again publishing the revised budget and holding another public hearing. Of course, budget committee members are free to attend that hearing and voice their opinions of the changes made by the governing body.

What is a supplemental budget?

Districts may find it necessary to prepare a supplemental budget at some point during the fiscal year. Circumstances under which a supplemental budget is authorized are:

- An occurrence, condition, or need arises which was not known at the time the budget was adopted.
- Additional funds are made available after the budget was adopted.

Although the budget committee is usually not involved with supplemental budgeting, the procedures for supplemental budgets are similar to those for the annual budget. If estimated expenditures are being changed by more than 10 percent, these procedures include a public hearing and publishing a notice and budget summary five to 30 days prior to the hearing.

Where can I find the law that governs the creation and operation of budget committees?

Budget committees are required in Oregon's Local Budget Law. This law is found in the Oregon Revised Statutes (ORS) beginning at ORS 294.305.

These statutes as well as additional information can be found on the Department of Revenue website at www.oregon.gov/DOR.

Where can I direct my questions regarding budget committees?

Oregon Department of Revenue
Finance, Taxation and Exemptions
PO Box 14380
Salem OR 97309-5075

Telephone: 503-945-8293
Fax: 503-945-8737
Email: finance.taxation@oregon.gov

Administration Checklist

- ✓ Gather budget requests.
- ✓ Evaluate budget requests and develop proposed budget.
- ✓ Develop estimates of revenue.
- ✓ Prepare budget proposal.
- ✓ Estimate ad valorem taxes in budget document.
- ✓ Prepare budget message.
- ✓ Publish required notices and budget summary.
- ✓ Provide citizens with information about approved budget.

Budget Committee Checklist

- ✓ Establish a meeting calendar.
- ✓ At first meeting, elect presiding officer (required) and vice chair (optional).
- ✓ At first meeting, establish budget committee procedural rules.
- ✓ At first meeting, receive budget message and proposed budget.
- ✓ Request information.
- ✓ Make budget documents available to any person.
- ✓ Provide opportunities for citizens to ask questions.
- ✓ Approve motion setting the rate or amount of taxes necessary to balance budget.
- ✓ Approve budget and recommend to the governing body.

Glossary

Here are some terms you will use as you work on your budget.

Adopted budget. The financial plan adopted by the governing body which forms a basis for appropriations.

Ad valorem tax. A property tax computed as a percentage of the value of taxable property. See "Assessed value."

Appropriation. Based on an adopted budget, an authorization for spending specific amounts of money for specific purposes during specific periods of time. Presented in a resolution or ordinance adopted by the governing body.

Assessed value. The portion of value of real or personal property that is taxable. It is the lesser of the property's real market value or the constitutional value limit (maximum assessed value—MAV). The value limit may increase 3 percent annually unless qualifying improvements or changes are made to the property. These improvements or changes allow the value limit to increase by more than 3 percent.

Biennial budget period. A 24-month period beginning July 1 and ending June 30 of the second succeeding year.

Budget. Written report showing the local government's comprehensive financial plan for one fiscal year. Must include a balanced statement of actual revenues and expenditures during each of the last two years, estimated revenues and expenditures for the current and upcoming year.

Budget committee. Fiscal planning board of a local government, consisting of the governing body plus an equal number of legal voters from the district.

Budget message. An explanation of the budget and local government's financial priorities. Prepared by or under the direction of the executive officer or presiding officer of the governing body.

Budget officer. Person appointed by the governing body to assemble budget material and information, prepare the proposed budget, and oversee the budget process.

Capital outlay. Items which generally have a useful life of one or more years, such as machinery, land, furniture, equipment, or buildings.

County elections officer. County clerk or registrar of elections.

District. See "Local government."

Expenditures. Decreases in net financial resources if accounts are kept on an accrual or modified accrual basis; total amount paid if accounts are kept on a cash basis.

Fiscal year. A 12-month period beginning July 1 and ending June 30.

Fund. A division in a budget segregating independent fiscal and accounting requirements. An entity within a government's financial plan designated to carry on specific activities or to reach certain objectives.

Governing body. County court, board of commissioners, city council, school board, board of trustees, board of directors, or other governing board of a local government.

Line-item budget. The traditional form of budgeting, where proposed expenditures are based on individual objects of expense within a department or division.

Local government. Any city, county, port, school district, public, or quasi-public corporation (including a municipal utility or dock commission) operated by a separate board or commission.

Municipality. See "Local government."

Ordinance. Written directive or act of a governing body. Has the full force and effect of law within the local government's boundaries, provided it does not conflict with a state statute or constitutional provision. See also "Resolution."

Organizational unit. Any administrative subdivision of a local government, especially one charged with carrying on one or more specific functions (such as a department, office, or division).

Payroll expenses. Health and accident insurance premiums, Social Security and retirement contributions, and civil service assessments, for example.

Permanent rate limit. A district's permanent ad valorem property tax rate for operating purposes. This rate levied against the assessed value of property raises taxes for general operations. Permanent tax rate limits were either computed by the Department of Revenue for districts existing prior to 1997–1998 or are voter-approved for districts formed in 1997–1998 and later.

Program. A group of related activities to accomplish a major service or function for which the local government is responsible.

Property taxes. Amounts imposed on taxable property by a local government within its operating rate limit, levied under local option authority, or levied to repay bonded debt.

Proposed budget. Financial and operating plan prepared by the budget officer, submitted to the public and budget committee for review.

Real market value. Value at which a property would be sold by an informed seller to an informed buyer on the appraisal date. Value set on real and personal property as a basis for testing the (Measure 5) constitutional limits.

Reserve fund. Established to accumulate money from one fiscal year to another for a specific purpose.

Resolution. A formal expression of will or intent voted by an official body. Statutes or charter will specify actions that must be made by ordinance and actions that may be by resolution. (For cities, revenue raising measures such as taxes, special assessments, and service charges always require ordinances.) See "Ordinance."

Resources. Estimated beginning fund balances on hand at the beginning of the fiscal year, plus all anticipated revenues.

Revenues. Monies received or anticipated by a local government from either tax or nontax sources.

Supplemental budget. Prepared to meet unexpected needs or to spend revenues not anticipated at the time the regular budget was adopted. Cannot be used to increase a tax levy.

Tax levy. Taxes imposed by a local government unit through a rate or amount.

Transfers. Amounts distributed from one fund to finance activities in another fund. Shown as a requirement in the originating fund and a revenue in the receiving fund.

Unappropriated ending fund balance. Amount set aside in the budget to be used as a cash carryover to the next year's budget, to provide the local government with a needed cash flow until other money is received. This amount cannot be transferred by resolution or used through a supplemental budget during the fiscal year it is budgeted unless there is a significant calamity or natural disaster.

Where to get help preparing your local budget

Finance, Taxation and Exemptions..... 503-945-8293
Email .....finance.taxation@oregon.gov

Each year the Department of Revenue makes available a booklet that contains forms and instructions for summarizing your district's budget for publication and certifying the tax levies to the assessor. These forms meet the minimum requirements of local budget law and are free of charge.

The forms are available each year beginning in January on the department's website at www.oregon.gov/dor.

The booklet is available upon request by contacting the Finance, Taxation and Exemptions Unit by telephone, email, or at the address below. If you would like a copy sent to you, please request your copy no later than November 15.

Finance, Taxation and Exemptions Unit
Oregon Department of Revenue
PO Box 14380
Salem OR 97309–5075

Your district may also computer-generate the budget detail and publication forms based upon your district's own computer formatting.

Have questions? Need help?

General tax information.....www.oregon.gov/dor
Salem..... 503-378-4988
Toll-free from an Oregon prefix.....1-800-356-4222

Asistencia en español:
En Salem o fuera de Oregon..... 503-378-4988
Gratis de prefijo de Oregon 1-800-356-4222

TTY (hearing or speech impaired; machine only):
Salem area or outside Oregon 503-945-8617
Toll-free from an Oregon prefix..... 1-800-886-7204

Americans with Disabilities Act (ADA): Call one of the help numbers above for information in alternative formats.

8.2.

Business Travel Policy

Personnel and Administrative Policy and Procedure

SUBJECT: Business Travel	EFFECTIVE DATE: November 14, 2005 REVIEWED: May 2011 REVISED: November 15, 2006; December 2012
CATEGORY: 400 POLICY NUMBER: 400.5	CROSS REFERENCE:

Purpose: To outline policy for eligible business travel expenses.

Scope: This policy applies to all City employees except as otherwise provided by an employment contract for the City Manager.

Policy: The general policy regarding employee conferences, training and travel expenditures is that meetings lasting more than one day or requiring overnight stay must be planned in advance by providing funds in the budget, be reviewed and approved by a Department Director or designee prior to the trip and must be supported by documentation justifying the expenditure of City funds. This policy clarifies the guidelines in this area and provides the procedures for the reimbursement of reasonable travel, meals, lodging and miscellaneous expenses for approved business events.

Travel Time

The City will adhere to the Oregon Administrative Rules and regulations set forth in the Bureau of Labor and Industries publication as follows:

1. Normal travel from home to work is not compensable work time.
2. If an employee is traveling during work hours to a location for work related purposes, including training, that time shall count as compensable work time.
3. On overnight trips, travel time that falls within the employee's regular work hours or the corresponding hours on days off will be paid. For instance, if regular work hours are 8am – 5pm Monday to Friday, travel time falling within those hours are compensable, even on Saturday and Sunday.
4. Time that is spent in travel for overnight trips outside of regular work hours as a passenger on an airplane, train, boat, bus, or automobile is not considered work time. For instance, if regular work hours are 8am – 5pm Monday to Friday, travel time before 8am and after 5pm is not paid, unless the employee is driving. The City is not obligated to compensate for travel time if an employee who is offered transportation chooses to drive.
5. If an employee is given a one day assignment to work in another city that is more than thirty (30) miles away, the employee will be paid for travel time.
6. If public transportation is available, but the employee requests to drive his/her own car, the employer may count as hours worked either the time spent driving the car or the hours that would have been spent on public transportation, whichever is less, provided the travel meets the other requirements to be compensable.

Transportation

1. The most economical method of travel should be used and should consider such factors as compensable travel time, direct cost of a particular mode of travel, and number of people that could travel together.

2. Travel in the Portland and Salem metro areas is considered local and is not eligible for overnight lodging expenses.

3. Travel outside of the Portland and Salem metro areas that includes overnight lodging must be pre-approved by the Department Director or designee on a Pre-Travel Authorization Form. When approved transportation includes airfare, transportation to and from the airport, parking, bridge tolls and other costs directly related to transportation, the employee is reimbursed for actual cost.

Mileage

Policy: Employees will be reimbursed for authorized use of personal vehicles in the performance of City business.

See Vehicle Use Policy for more information on insurance requirements and use of personal vehicles to conduct City business.

1. The use of personal vehicles will be reimbursed on a mileage basis at the current IRS rate. The current IRS rate is available on the Mileage Reimbursement form. All other costs related to use of a personal vehicle including insurance and gasoline are covered by this rate and are the responsibility of the employee.

2. Reimbursements of up to $50.00 should be made through department petty cash custodians. Reimbursements of more than $50.00 should be submitted to accounts payable. In either case the employee must submit a signed copy of the Mileage Reimbursement form to their Department Head or Supervisor for approval. The employee is then responsible for ensuring that the approved request is submitted to the department petty cash custodian or accounts payable within one month of the travel showing the purpose of travel, date and mileage used.

Mileage reimbursement requests should be submitted using a Mileage Reimbursement Request form.

Overnight Travel - Business Meals and Related Expenses

1. When an employee travels on approved overnight business, per diem amounts for breakfast, lunch, dinner, and incidentals are available. The per diem allowance amounts are intended to provide for meals, tips, baggage handling and miscellaneous expenses. The latest authorized per diem allowance amounts are equal to the current IRS standard per diem rates which are listed on the Post-Travel Reconciliation form.

2. As an alternative to the per diem method described above, the employee may be reimbursed for actual meal expenses, up to the amount of the per diem rate if the Department Director approves this method, and if the receipts are itemized listing the individual purchases. The City will not reimburse employees for alcohol purchases. If there is a non-paid meal associated with the conference such as an awards dinner that exceeds the per diem rate, the full amount of the meal will be reimbursed with appropriate verification of expenses.

The employee must use either the per diem method or the alternative actual method exclusively on each overnight function, and not combine the two.

Lodging

The City pays the single room rate for employee lodging for approved overnight functions. Lodging costs that exceed the single room rate are borne by the employee.

If employees share lodging each employee shall be reimbursed the lesser of the single rate or one half the double rate.

Other than Overnight Travel – Meals and Other Expenses

Business expenses for other than overnight travel **except for meals** will be reimbursed based on actual expenditures, provided that the expenditure is approved by the Department Head.

The IRS considers meals incurred for other than overnight travel to be **taxable to the employee. Accordingly, the City does not reimburse for meals on other than overnight travel or on meals consumed off City premises.**

Meals provided for the convenience of the City and which are consumed on the premises and for a business purpose are not taxable to the employee.

Reimbursements to employees for meals taken with non-City employees are excludable if the main purpose of the meeting was to conduct business and business was actually conducted or if the purpose is to entertain customers/civic leaders with whom the City has or wishes to have a business relationship and business is discussed.

Procedures and Forms

By using the following two forms and attaching all itemized receipts, the IRS' "Accountable Plan" rules will be met which makes conference/training trip expenses tax-free to employees. If a credit card is used, the itemized receipt showing the purchased items **must** be submitted in addition to the credit card receipt.

Pre-Travel Authorization Form

This form is used to estimate travel expenses and receive prior signed authorization to attend. The employee retains this form and attaches it to the Post-Travel Reconciliation Form that is submitted for reimbursement after the trip's completion. Business meetings of one day or less do not require prior approval.

Post-Travel Reconciliation Form

This form is used to reconcile all trip expenses. All personal or City-paid trip expenses should be reflected on this form. The form allows for lines to back-out any expenses the City has already paid, netting to an amount due back to the employee for the expenses they paid directly.

If a City purchase card is used for some or all of the expenses, then a copy of the receipts and Post-Travel Reconciliation form should be attached to that monthly purchase card statement. The original receipts and Post-Travel Reconciliation form should then be submitted into Accounts Payable for reimbursement or filing support.

City of Milwaukie
Pre-Travel Authorization Form - 2018

* Required Field

This form must be completed and approved in advance of travel. Please retain all supporting documentation.

Section 1

Employee Name*		Employee Signature*	Date*
Department*		**G/L Account #***	
Dates of Travel*		**Mode of Travel (Personal Vehicle, City Vehicle, etc.)***	
Destination	**City*** **State***	**Purpose of Travel***	

Section 2

Cost of travel*	Estimated Cost*	Pcard?* Y/N
Registration	$ -	
Airfare	$ -	
Lodging (include tax)	$ -	
Mileage	$ -	
Baggage Fees	$ -	
Taxi/Transportation	$ -	
Other	$ -	

Section 3

IRS Rates - 2018		
Mileage	$	0.545
Per Diem Rates*		
Breakfast	$	-
Lunch	$	-
Dinner	$	-
Incidentals	$	5.00
		$5.00

Click here for per diem rates from GSA.

Enter the city and state or zip code of your travel destination and click Find Rates. The daily rate for meal and incidental expenses (M&IE) will be in the far right column. For a further breakdown of meal and incidental rates, click the M&IE link found lower on the page.

Section 4

Meals:	# of Meals/Inc.*	Estimated Cost*	Pcard?* Y/N
Breakfast	0	$ -	
Lunch	0	$ -	
Dinner	0	$ -	
Incidentals	0	$ -	
TOTAL		**$ -**	

Only count the number of meals that will be claimed as per diem or will be charged on your pcard. The count should not include any meals included in the registration fee.

Comments/Notes:

Section 5

Supervisor Approval*	Date*	Director Approval*	Date*

Section 6

Finance Verification	Date

City of Milwaukie
Post-Travel Authorization Form - 2018

* Required Field

This form must be completed and approved before submitting to Finance with all supporting documentation.

Employee Name		**Employee Signature***	**Date***
0			
Department		**G/L Account #**	
0		0	
Dates of Travel		**Mode of Travel (Personal Vehicle, City Vehicle, etc.)**	
0		0	
Destination	**City** / **State**	**Purpose of Travel**	
	0 / 0	0	

Section 1

IRS Rates - 2018			# of Meals/Inc.*	Total	
Mileage	$	0.545			
Per Diem Rates					
Breakfast	$	-	0	$ -	TRUE
Lunch	$	-	0	$ -	TRUE
Dinner	$	-	0	$ -	TRUE
Incidentals	$	5.00	0	$ -	TRUE
		$5.00			

Section 2

Date*	Airfare*	Miles Driven*	Mileage Reimbursement	Registration*	Breakfast*	Lunch*	Dinner*	Lodging*	Baggage Fees*	Taxi / Transportation*	Other / Incidentals*	Totals
	$ -		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	$ -		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	$ -		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	$ -		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	$ -		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	$ -		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	$ -		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	$ -		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	$ -		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	$ -		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Totals	**$ -**	**0**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Total Travel Costs **$ -**

Section 3

	Amount	Description		AP	Pcard	Date
*Less already paid by City	$ -		paid by			
*Less already paid by City	$ -		paid by			
*Less already paid by City	$ -		paid by			
*Less already paid by City	$ -		paid by			
Due to (from) employee	$ -					

The post-travel reconciliation should reflect all charges related to your trip. Use the "already paid by City" lines to back out amounts that have already been paid by the City or that were charged on a City purchase card.

Comments/Notes:

Section 4

Supervisor Approval*	**Date***	**Director Approval***	**Date***

Section 5

Finance Verification*	**Date***

8.3.

Mileage Reimbursement Policy

Personnel and Administrative Policy and Procedure

SUBJECT: MILEAGE REIMBURSEMENT	EFFECTIVE DATE: November 15, 2006 REVIEWED: May 2011 REVISED:
CATEGORY: 400 POLICY NUMBER: 400.2	CROSS REFERENCE: **Cross Reference** Travel Reimbursement Policy and Procedure 200.56 Taxable Fringe Benefits Policy 400.4

Purpose: To outline mileage reimbursement procedures for use of a personal vehicle in the performance of city business.

Scope: This policy applies to all employees except as otherwise provided by an employment contract for the City Manager.

Policy: Employees will be reimbursed for authorized use of personal vehicles in the performance of City business. The City does not reimburse for normal commutes to and from work.

Procedures

1. The use of personal vehicles will be reimbursed on a mileage basis at the current IRS rate. The current IRS rate is available on the Travel Authorization Form and at www.gsa.gov. All other costs related to use of a personal vehicle including insurance and gasoline are the responsibility of the employee.
2. Reimbursements of up to $50.00 are made through department petty cash custodians. Reimbursements of greater than $50.00 are submitted to accounts payable. In either case the employee must submit a signed copy of the attached mileage log within one month of the travel showing the purpose of travel, date and mileage used.
3. City vehicles should not be driven home. There may be exceptions for those in law enforcement that are assigned a take home vehicle by the Chief of Police in order to respond to emergency situations. Any non-work related travel must be documented on a monthly basis and submitted to Payroll and may be subject to taxation. Any take home privileges or personal use of a City vehicle may be subject to taxation under the IRS regulations.
4. See Vehicle Use Policy for more information on insurance requirements and use of personal vehicles to conduct City business.

Responsibilities

Employees:

To submit accurate mileage reimbursement requests within one month of the travel.

City of Milwaukie
Mileage Reimbursement Form - 2018

Employee Name:	Date:	2018 IRS Mileage Rate
Employee Signature:	**G/L Account No.**	0.545

Travel Date	Destination and Purpose of Trip	Miles Driven
	Total Miles Driven:	0.00

Reimbursement Due to Employee: $ -

Supervisor Approval:	Date:

This form must be completed and approved before submitting to Finance with all supporting documentation, such as printed directions calculating total miles. MapQuest, Google Maps or any other resource for driving directions is satisfactory.

If request is less than $50, petty cash may be used to reimburse employee after approval.

8.4.

*Key Documents

Electronic Copies Available: City Council Online Handbook

- **Adopted Budget 2019/2020 Biennium**

- **Comprehensive Annual Financial Report (CAFR)**

  Fiscal Year Ended June 30, 2017

  (FY18 to be completed in December 2018)

- **Popular Annual Financial Report (PAFR)**

  Fiscal Year Ended June 30, 2017