# **CANBY SOUTH**

# **PRELIMINARY STORMWATER REPORT**

VLMK Project Number: 20220551

Trammell Crow Company 1300 SW 5<sup>th</sup> Avenue, Suite 3050 Portland, OR 97201



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Project:	Canby South	Project Number:	20220551
Project Address:	S. Township Rd between S. Sequoia Parkway and S. Mulino Rd		

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## A. Site Vicinity Map



### B. **Project Information**

The Canby South project proposes the construction of a 778,720 SF concrete tilt-up warehouse building. Proposed site work includes new passenger and trailer parking areas, truck loading docks, vehicle maneuvering areas, stormwater management facilities, and related infrastructure. This report analyzes the network of new stormwater management facilities designed to provide water quality treatment and water quantity control for on-site stormwater runoff.

The site is located on S Township Rd between S Sequoia Parkway and S Mulino Rd. The Southern Pacific Railroad borders the site along the southwest. The property has historically been utilized for agricultural purposes. The terrain is generally flat with a slight draw in the southeast corner of the site that drains to the south. The tax lot is zoned as M-1, Light Industrial.

Topographic information for the site is based on survey provided by: <u>Northwest Surveying Inc.</u> (1815 NW 169<sup>th</sup> Place, Suite 2090. Beaverton, OR 97006 Phone: (503)848-2127). Geotechnical investigation and testing is provided by: <u>Columbia West Engineering</u> (11917 NE 95<sup>th</sup> Street, Vancouver, Washington 986852 Phone: (360) 823-2900)

All stormwater facilities and conveyance systems for this development have been designed per the City of Canby Public Works Design Standards and the Clean Water Services R&O 19-22.

Software used in design:

- HydroCAD Stormwater Modeling Software
- Microsoft Excel
- AutoCAD Civil 3D 2024

#### C. Stormwater Narrative

Onsite stormwater runoff will be collected at roof drains or catch basins located throughout the property. All stormwater runoff from pollution-generating surfaces (i.e. asphalt and concrete) will be treated using on-site stormwater filtration units. Runoff from roof areas will bypass water quality treatment as authorized by DEQ rule for Underground Injection Control (UIC). All site runoff will be routed to one of several sedimentation manholes for pretreatment prior to discharge into the respective underground infiltration facility. There will be three separate underground infiltration facilities, each consisting of StormTech Chambers, that will infiltrate the majority of the site's stormwater into native soils. A fourth facility consisting of a single dry well will manage a small area at the southeast corner of the site, also infiltrating stormwater into native soils. The infiltration systems will comply and be registered with DEQ UIC Rule Authorization requirements. Calculations for the water quality, infiltration and conveyance will be provided during permit submittal.

#### Water Quality Treatment

All runoff from on-site pollution generating hard surfaces (approx. 19.0 acres) will be treated using BayFilter treatment units by ADS. Per DEQ Underground Injection Control (UIC) regulations for 'Rule Authorized' injection systems, roof areas are not required to be treated prior to entering underground infiltration systems. City of Canby Public Works Design Standards section 4.310 requires water quality facilities to be sized per the Clean Water Services (CWS) Design Manual. The CWS water quality event used to size these facilities is 0.36" developed over 4 hours.

#### Storm Quantity Control (Complete Infiltration)

The stormwater quantity requirements will be achieved by infiltrating all runoff from storm events up to and including the 100-yr event in one of three infiltration systems consisting of MC-4500 StormTech chambers or a separate dry well system. Preliminary sizing calculations were completed using an approximate infiltration rate of 600 in/hr. and a factor of safety of 6, for a design rate of 100 in/hr. This is based on infiltration testing conducted on the site in 2021; additional infiltration testing will be performed to validate the design. The chambers (and dry well) will be installed at depths that engage native infiltration soil layers.

#### **Conveyance**

The proposed storm conveyance pipes will be sized to convey the peak flow from the 25-year design event (4.0" over 24 hours) as calculated using the Santa Barbara Unit Hydrograph (SBUH). The minimum time of concentration in the SBUH calculations is 5.0 minutes. A conservative Manning's coefficient (n) of 0.013 is used to size conveyance pipes. For the conveyance calculations, it is conservatively assumed that the entire site area is impervious.

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## D. **APPENDIX**

Preliminary Site Drawings & Basin Maps



#### GENERAL NOTES

- 1. PRIOR TO ANY CONSTRUCTION. CONTRACTOR SHALL VERIFY EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION, CONTRACTOR SHALL VERIFY EXISTING UTILITIES AND TOPOGRAPH YARE AS SHOWN ON PLANS. WHEN ACTUAL CONDITIONS DIFFER FROM THOSE SHOWN ON THE PLANS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
   CONTRACTOR TO LEAVE ALL AREAS OF PROJECT FREE OF DEBRIS AND UNUSED CONSTRUCTION MATERIAL.
   CONTRACTOR SHALL PROVIDE ALL MATERIALS, EQUIPMENT, SURVEYING, TESTING, PERSONNEL, TRAFFIC SAFETY CONTROL AND AS-BUILTS FOR ALL PHASES OF CONSTRUCTION

- CONSTRUCTION. 4. CONTRACTOR SHALL COORDINATE PUBLIC IMPROVEMENTS AND INSPECTIONS
- CONTRACTOR SHALL COORDINATE PUBLIC IMPROVEMENTS AND INSPECTIONS WITH THE CITY OF CANBY AND CLACKAMAS COUNTY.
  PROPERTY LINE BEARINGS AND DISTANCES AS WELL AS SITE AREA CALCULATIONS ARE PROVIDED FOR ZONING AND PERMIT REVIEW ONLY. REAL PROPERTY LEGAL DESCRIPTIONS AND AREA CALCULATIONS ARE TO BE PROVIDED BY A REGISTERED PROFESSIONAL SURVEYOR.
  PROPERTY CORNER SURVEY MONUMENTS, WHICH ARE IN DANGER OF BEING DISTURBED OR DESTROYED BY THE WORK OF THIS PROJECT, SHALL BE TIED-OUT BY A REGISTERED PROFESSIONAL SURVEYOR PRIOR TO THE BEGINNING OF ANY CONSTRUCTION, AND SHALL BE RE-SET IN ACCORDANCE WITH STATE LAW, IMMEDIATELY FOLLOWING THE COMPLETION OF ALL CONSTRUCTION. IMMEDIATELY FOLLOWING THE COMPLETION OF ALL CONSTRUCTION.

#### GRADING NOTES

- ATTENTION EXCAVATORS: OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORT IN NOAR 952-001-0010 THROUGH OAR 952-001-0909, YOU MAY OBTAIN COPIES OF THESE RULES FROM THE CENTER BY CALLING 811 OR 1-800-332-3344. JF 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 811 OR 1-800-332-2344.
- AU NEW CONTOURS SHOWN ARE FINISH GRADES. UNLESS OTHERWISE NOTED

ABBREVIATIONS

EL B.M. TC BC MH CB AC AD

H.P. GB T.O.W.

T.O.E. EXTG

CONC TYP.

CE SE

FG EG

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ELEVATION

BENCH MARK TOP OF CURB BOTTOM OF CURB MANHOLE CATCH BASIN ASPHALT CONCRETE

AREA DRAIN HIGH POINT GRADE BREAK

TOP OF WALL

TOE OF WALL EXISTING

TYPICAL

GENERAL SYMBOLS

CURB EXPOSURE STORMFILTER CONCRETE

FINISHED GRADE

MANHOLE (MH)

UTILITY POLE

UTILITY VAULT

TRANSFORMER

LIGHT POLE

GATE VALVE

CHECK VALVE

CLEAN OUT (CO)

METER

- ALL NEW CONTOURS SHOWN ARE FINISH GRADES, UNLESS OTHERWISE NOTED.
  ORGANIC AND UNDESIRABLE MATERIAL SHALL BE REMOVED FROM THE CONSTRUCTION AREA AS DIRECTED BY THE ENGINEER.
  ALL DISTURBED AREAS NOT LANDSCAPED ARE TO BE HYDROSEEDED OR BEDDED IN STRAW TO PREVENT EROSION. SEE EROSION CONTROL PLAN, C3 SHEET SERIES.
- 5. ALL FILL AREAS SHALL BE STRIPPED OF ORGANIC MATERIAL. FILL SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT. COMPACTION TESTS MAY BE REQUIRED BY THE CITY OR THE ENGINEER OF RECORD. IF POOR COMPACTION EFFORTS ARE OBSERVED DURING CONSTRUCTION. COMPACTION REPORTS FROM A REPUTABLE TESTING LAB WILL BE SUPPLIED TO THE ENGINEER.

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