KITTELSON & ASSOCIATES
851 SW 6th Avenue, Suite 600
Portland, OR 97204
P 503.228.5230

Transportation Memorandum

November 6, 2025 Project# 31976

To: Mike McCarthy, PE
City of Tualatin Engineering

From: Diego Arguea, PE & Julia Kuhn, PE

RE: Industrial Warehouse Trip Generation & Distribution – Tualatin, OR

MDG Architects is working with Pacific NW Properties (applicant) to prepare a land use application for two industrial warehouses located at 12935 SW Leveton Drive. A site vicinity map is provided below in Figure 1 and a site plan is included as an attachment (Attachment "A") to this memorandum.

Figure 1 Site Vicinity

This memorandum documents that the total daily vehicular trip generation from the proposed buildings results in fewer than 500 daily trips and thus does not trigger the need for a formal transportation impact analysis (TIA) per City of Tualatin traffic study requirements[1]. A trip generation and distribution analysis is provided to address the City's requirements for developments that are estimated to exceed 100 daily trips. Additional details are provided herein.

Proposed Development

The applicant proposes the construction of two industrial warehouse buildings along SW Leveton Drive (classified as a commercial/industrial connector roadway). Each building is 22,500 square feet, and 77 parking spaces are provided for the full site. Access is proposed on SW Leveton Drive (2 driveways) approximately 330 and 620 feet east of SW 130th Avenue, respectively, with the easternmost driveway aligned with SW 128th Avenue. A third driveway is also proposed on SW 130th Avenue approximately 115 feet north of SW Leveton Drive. A driveway design exception will be required for the access location along SW 130th Avenue to justify the location and is discussed later in this report.

[1] Tualatin Traffic Study Requirements | The City of Tualatin Oregon Official Website

Trip Generation and Distribution

The trip generation associated with the industrial buildings is shown in Table 1. The trip generation estimates for the existing building were prepared based on trip rates included in the *Trip Generation Manual*, 11th Edition (Institute of Transportation Engineers, ITE, 2021).

Table 1: Estimated Change in Trip Generation

Land Use	ITE Code	Size (Square feet)	Daily Trips	Weekday AM Peak Hour			Weekday PM Peak Hour		
				Total	In	Out	Total	In	Out
General Light Industrial[1]	110	45,000	220	34	30	4	23	3	20

[1] Assumes fitted curve to calculate trips.

As shown, the estimated daily trips are estimated not to exceed 500 trips and thus does not require additional capacity or level-of-service based analysis in addition to the trip generation and distribution provided herein.

Based on review of surrounding land uses and input from the applicant, the estimated trips are expected to follow the approximate distribution pattern:

- 40 percent southwest along Highway 99
- 40 percent northwest along Highway 99
- 20 percent east of the site along SW Leveton Drive

  (connections to SW Herman Road and SW Tualatin-Sherwood Road)

Truck Traffic

The applicant anticipates an average of approximately five or six WB-62/67 style trucks accessing the site on a weekday daily basis. Truck traffic will be instructed to enter the site at Leveton Drive east driveway and circulate counterclockwise, exiting onto Leveton Drive via the center driveway. While no trucks will be instructed to enter at the 130th driveway, the applicant seeks a 40-foot wide entry along SW 130th Avenue to provide an internal circulation option, should a heavy vehicle inadvertently use this access.

Driveway Location

As described under *Proposed* Development, a third driveway is proposed on SW 130th Avenue approximately 115 feet north of SW Leveton Drive. Per conversations with City of Tualatin engineering staff, initial feedback indicated a preference for the driveway location to be 150 feet from SW Leveton Drive. Per the City's request, the following technical support for the proposed driveway location was prepared and shared with City staff. Kittelson, the applicant, and the City of Tualatin met to discuss the findings for consideration, summarized below. Additional graphics, technical calculations, and correspondence with City of Tualatin staff is provided in Attachment "B" to this report.

Proposed Driveway Location Technical Justification:

- The driveway location as proposed maximizes site distance to 99W and increases access spacing with the adjacent property to the north. Given the potential for simultaneous truck activity between the two sites, this separation provides less risk of overlapping conflicting movements.

- The roadway grade of Leveton Drive as it approaches 99W to the north is steep, and given the truck traffic to/from the site, would benefit from the lesser grade on the southern portion of Leveton (refer to images provided in Attachment "B").
- The proposed driveway location also maximizes the distance to the crest vertical curve (located approximately 100 feet south of 99W). The driveway would be located approximately 410 feet south of the crest vertical curve and 115 feet north of Leveton (refer to images provided in Attachment "B").
- We recognize that the 115-feet distance to the elbow should provide sufficient sight distance to ensure safe maneuvers into and out of the driveway. While the posted speed along Leveton is 35mph, the 90-degree elbow operates at a lower speed.

  Based on the comfort speed formula (ODOT Highway Design Manual Table 200-14), a design speed of 15 mph can be assumed for northbound traveling vehicles (shown in the images and calculations in Attachment "B").

Per AASHTO design recommendations for intersection and stopping sight distances, a 15 MPH design speed corresponds to 170 feet and 80 feet respectively (AASHTO table provided in Attachment C). Also documented in AASHTO guidelines (page 9-35, Section 9.5.1), "*If the available sight distance for an entering or crossing vehicle is at least equal to the appropriate stopping sight distance for the major road, then drivers have sufficient sight distance to anticipate and avoid collisions.*" This statement suggests that the stopping sight distance (SSD) is considered an acceptable metric for assessing sight distance-related driver safety. With 115 feet of SSD provided (80 feet per AASHTO), the driveway location would exceed the minimum AASHTO recommendations for a driver to avoid collisions.

We also note that the driveway has been located approximately at the location of where the grades are matching (refer to screen capture in Attachment "B"). The intent of this design decision is to prevent water on the street from flowing onto/into the site.

Pedestrian and Bicycle Facilities

Dedicated bicycle and pedestrian facilities are provided along Highway 99 and SW 124th Avenue, both located within approximately one quarter mile radius of the site. No dedicated bicycle lanes are provided along the site frontage streets (SW Leveton Drive and SW 130th Avenue) as these are local roads. Sidewalks have also recently been constructed along the site frontage as part of a City-funded project.

Conclusion

The estimated daily vehicle trips for the proposed industrial buildings is not forecast to exceed 500 daily trips, thus not triggering the Transportation Impact Analysis requirement. We trust the trip generation and distribution included herein meets the City's transportation requirements for the proposed land use application. Additionally, the provided technical analysis for the proposed driveway location demonstrates that sufficient stopping sight distance is expected to be met for a 15 MPH design speed. Please let us know if you need any additional information as part of your review of the land use proposal.

Attachments

A. Proposed Site Plan
B. SW 130th Avenue Driveway Location and Correspondence with City of Tualatin

Attachment A
Site Plan

GENERAL NOTES - SITE PLAN

1. GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO CONSTRUCTION, CONFLICTS ARE TO BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO THE START OF CONSTRUCTION RELATED TO SUCH.
2. CONTRACTORS SHALL VERIFY LOCATIONS OF EXISTING UTILITIES, CONTRACTOR RESPONSIBLE FOR DAMAGE TO OR DISTURBANCE OF EXISTING UTILITIES.
3. COORDINATE AND INSTALL FOUNDATION DRAINAGE IN ACCORDANCE WITH OWNER'S GEOTECHNICAL REPORT REQUIREMENTS.
4. REFER TO CIVIL AND LANDSCAPE DRAWINGS FOR ALL PUBLIC RIGHT-OF-WAY IMPROVEMENTS.
5. THE CONSTRUCTION SHALL NOT RESTRICT A FIVE-FOOT CLEAR UNOBSTRUCTED ACCESS TO ANY WATER OR POWER DISTRIBUTION FACILITIES (POWER POLES, PULL BOXES, TRANSFORMERS, VAULTS, PUMPS, VALVES, METERS, APPURTENANCES, ETC.) OR THE LOCATION OF THE HOOK-UP.
6. THE CONSTRUCTION SHALL NOT BE WITHIN 10' OF ANY POWER LINES - WHETHER OR NOT THE POWER LINES ARE LOCATED ON THE PROPERTY.
7. DELEGATED DESIGN NFPA 13 FIRE SPRINKLER SYSTEM DESIGNED IN ACCORDANCE WITH OSSC 903.3.1.1 WILL BE A DEFERRED SUBMITTAL.

ELECTRIC VEHICLE CHARGING STATION INFRASTRUCTURE
SHALL BE PROVIDED IN ACCORDANCE WITH DIVISION 460 STRUCTURAL AND ENERGY EFFICIENCY SPECIALTY CODES SECTION 918-460-0200 SUMMARIZED GENERALLY AS FOLLOWS. CONTRACTOR TO VERIFY REQUIREMENTS AND COMPLY WITH MOST CURRENT REQUIREMENTS.

2A – NO LESS THAN 20%, ROUNDED UP TO THE NEAREST WHOLE NUMBER, OF THE SPACES IN THE GARAGE OR PARKING AREA FOR THE BUILDING; OR
2B – IF LOCAL JURISDICTION REQUIRES MORE THAN THE QUANTITY NOTED IN ITEM 2A ABOVE, SHALL BE IN ACCORDANCE WITH THE LOCAL JURISDICTION'S REQUIREMENTS.
3A – PROVISION OF BUILDING ELECTRICAL SERVICE, SIZED FOR THE ANTICIPATED LOAD OF ELECTRIC VEHICLE CHARGING STATIONS (EVCS'), THAT HAS OVERCURRENT DEVICES NECESSARY FOR EVCS' OR HAS ADEQUATE SPACE TO ADD OVERCURRENT DEVICES;
3B – A DESIGNATED SPACE WITHIN A BUILDING TO ADD ELECTRICAL SERVICE WITH CAPACITY FOR EVCS'; OR
3C – A DESIGNATED LOCATION ON BUILDING PROPERTY, IN OR ADJACENT TO A LANDSCAPED AREA, FOR INSTALLING REMOTE SERVICE FOR EVCS';
4 – A CONDUIT SYSTEM INSTALLED FROM THE BUILDING ELECTRICAL SERVICE, OR FROM THE DEDICATED SPACE OR LOCATION FOR A FUTURE ELECTRICAL SERVICE AS DESCRIBED IN SUBSECTION 3B OR 3C TO PARKING SPACES THAT CAN SUPPORT, AT A MINIMUM, ELECTRICAL WIRING FOR INSTALLATION OF LEVEL 2 EVCS', BOTH ENDS OF THE CONDUIT MUST BE LABELED TO SHOW THAT THE CONDUIT IS PROVIDED FOR FUTURE EVCS';
5 – THE INSTALLATION OF A LEVEL 2 OR BETTER EVCS AT A PARKING SPACE SATISFIES THE INFRASTRUCTURE REQUIREMENTS OF THIS RULE FOR THAT PARKING SPACE.
6 – ALL ELECTRICAL INSTALLATIONS MUST COMPLY WITH THE PROVISIONS OF THE OREGON ELECTRICAL SPECIALTY CODE.

PROPOSED PARKING = 77 STALLS
TOTAL PARKING = 77 STALLS X 20% = 15.4 ~ 16 EVCS STALLS REQUIRED ≤ 16 PROPOSED, OKAY

PARKING COUNT

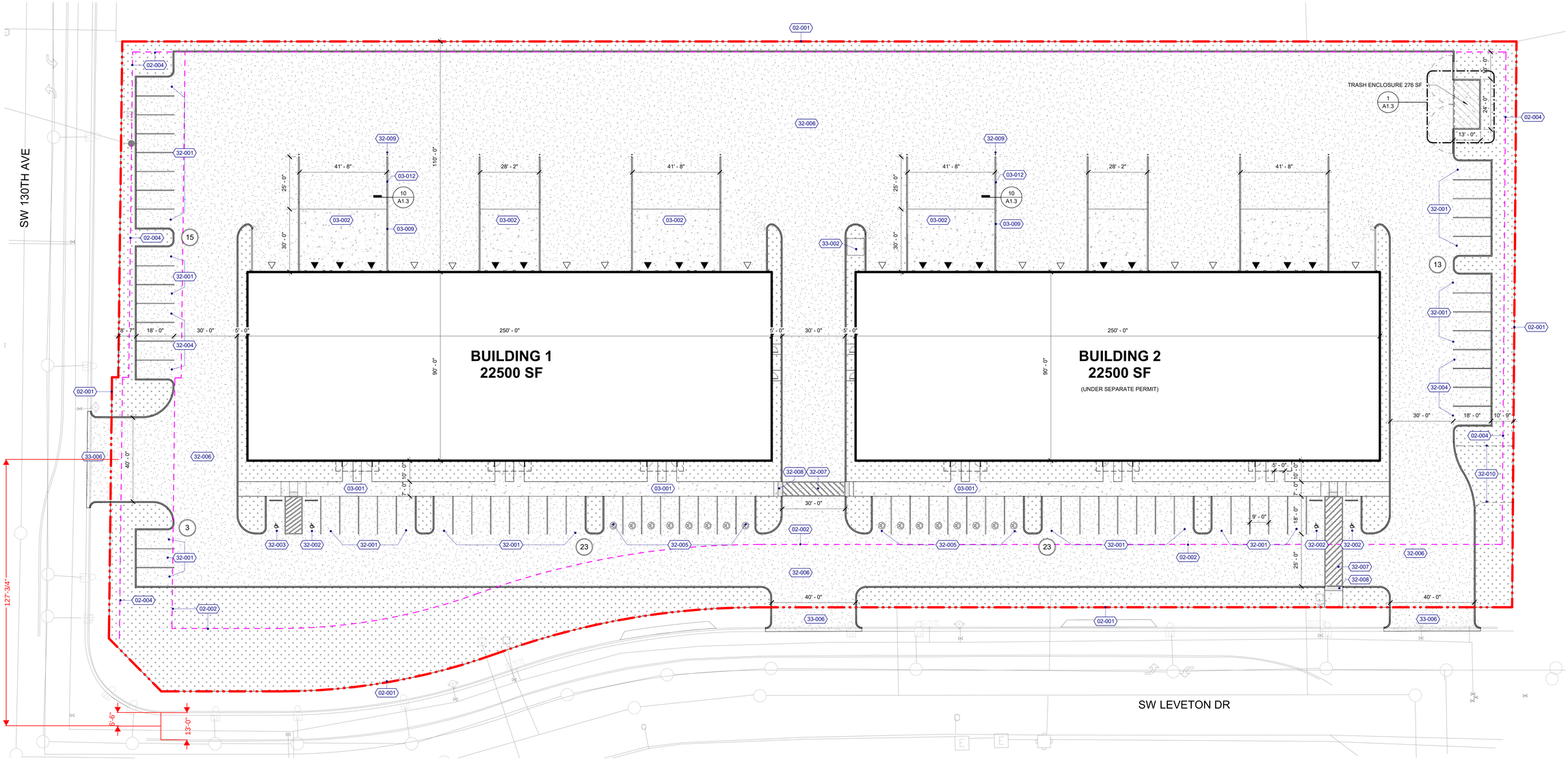
PARKING STALL	COUNT
STANDARD	73
ACCESSIBLE	3
VAN ACCESSIBLE	1
TOTAL PARKING	77

KEYNOTES

02-001	PROPERTY LINE
02-002	30 FT SET BACK AT FRONT
02-004	5 FT SET BACK FOR PARKING
03-001	CONCRETE SIDEWALK
03-002	CONCRETE LOADING DOCK SLAB
03-009	CONCRETE RETAINING WALL AT LOADING DOCK - 6"W X 42"H WHERE CHANGE OF GRADE IS GREATER THAN 30"
03-012	CONCRETE WALL / CURB AT ENTRY OF LOADING DOCK - 6"W X 6"H WHERE CHANGE OF GRADE IS LESS THAN 30"
32-001	STANDARD PARKING STALL
32-002	ACCESSIBLE PARKING STALL
32-003	ACCESSIBLE VAN PARKING STALL
32-004	CARPOOL / VANPOOL PARKING ONLY
32-005	STANDARD PARKING STALL - EV CHARGING INFRASTRUCTURE, VERIFY LOCATIONS WITH OWNER
32-006	ASPHALT - DRIVEWAY AND PARKING
32-007	ACCESSIBLE ROUTE, PAINTED
32-008	ACCESSIBLE RAMP WITH DETECTABLE WARNING
32-009	6" CONCRETE FILLED BOLLARD
32-010	POSSIBLE CONNECTION WITH ADJACENT LOT
33-002	CONCRETE PAD / VAULT FOR ELECTRICAL TRANSFORMER
33-006	COMMERCIAL DRIVEWAY PER CITY STANDARDS

LEGEND

- PROPERTY LINE
- SET BACK LINE
- DRIVE-IN DOOR
- DOCK-HEIGHT DOOR
- PARKING COUNT SUBTOTAL
- LANDSCAPE
- CONCRETE FLATWORK
- ASPHALT (DRIVEWAY & PARKING)
- ELECTRIC VEHICLE CHARGING STATION INFASTRUCTRE



1 SITE PLAN
1" = 20'-0"

NORTH

MDG
ARCHITECTURE | INTERIORS
4875 SW GRIFFITH DRIVE, SUITE 300
BEAVERTON, OREGON 97005
O | 503.244.0552

NOT FOR CONSTRUCTION

Client/ Owner:

PACIFIC NW PROPERTIES

6600 SW 105TH AVE,
SUITE 175
BEAVERTON, OR 97008

Project:

LEVETON 99

12935 SW LEVETON DR
TUALATIN OR 97062

Sheet Title:

SITE PLAN

Revisions:

#	Description	Date

Date: 04/22/2025
Job Number: 124064

Sheet

A1.1

TOPOGRAPHIC SURVEY

12935 S.W. LEVETON DRIVE

IN THE N.E. 1/4 OF SECTION 21,
T. 2 S., R. 1 W., W.M.,
CITY OF TUALATIN
WASHINGTON COUNTY
OREGON

OWNER: PACIFIC N.W. PROPERTIES L.L.C.

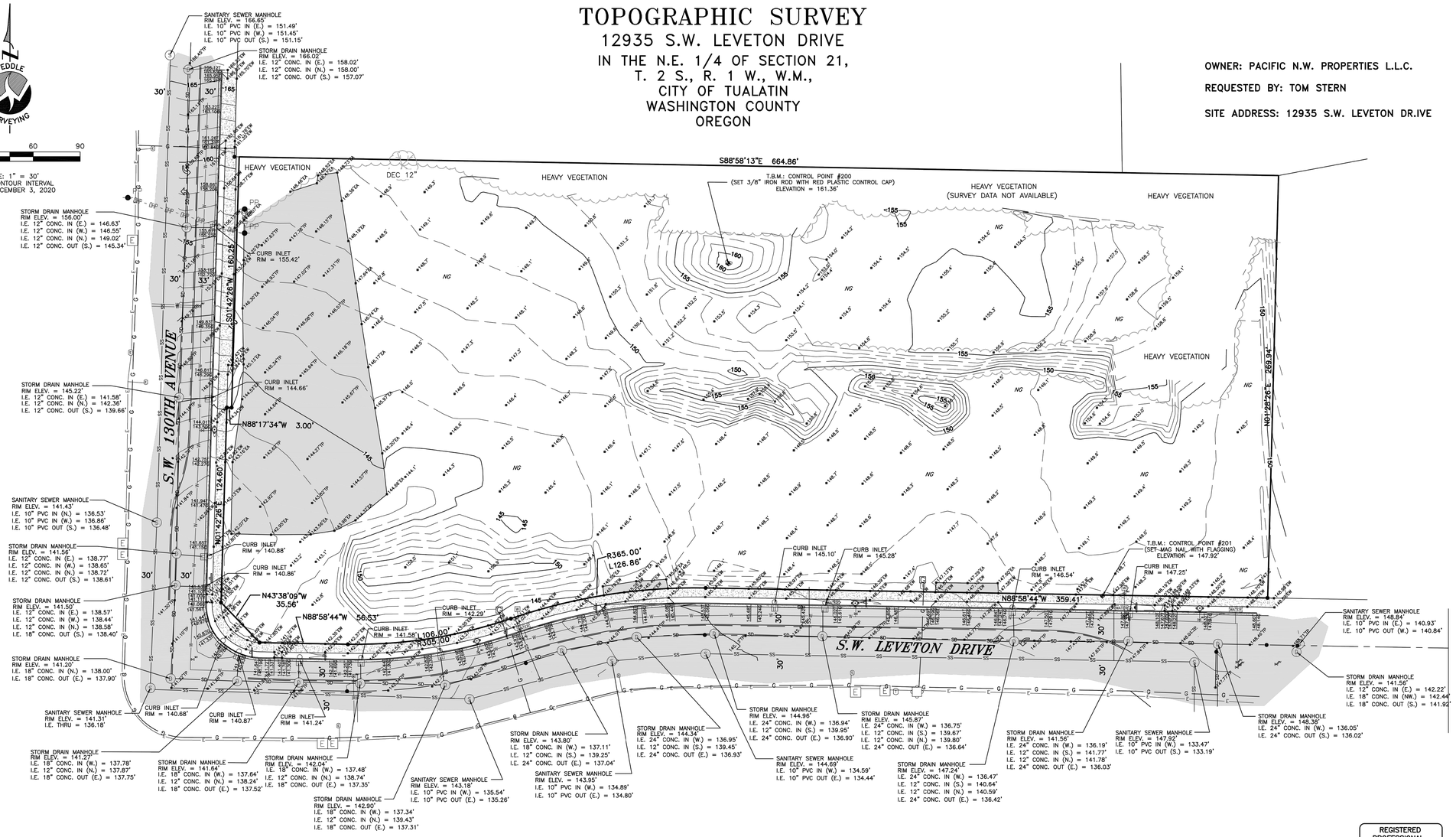
REQUESTED BY: TOM STERN

SITE ADDRESS: 12935 S.W. LEVETON DR.IVE

WEDDLE SURVEYING

0 30 60 90

SCALE: 1" = 30'
1-FT CONTOUR INTERVAL
DATE: DECEMBER 3, 2020



SURVEYOR'S NOTES

1. THE BASIS OF BEARINGS FOR THIS SURVEY IS SURVEY NO. 31947, WASHINGTON COUNTY PLAT RECORDS. THIS IS NOT A RECORDABLE SURVEY.
2. UNDERGROUND UTILITIES ARE SHOWN PER SURFACE MARKINGS AND AS-BUILT INFORMATION PROVIDED BY THE CONTROLLING JURISDICTIONS. THE SURVEYOR MAKES NO GUARANTEE AS TO THE EXACT LOCATION, EXISTENCE, NON-EXISTENCE OR COMPLETENESS OF ANY SUBSURFACE UTILITIES SHOWN, OR NOT SHOWN ON THE MAP. CALL 811 BEFORE DIGGING.

BENCHMARK

THE BENCHMARK USED FOR THIS SURVEY IS AN OPUS-DERIVED ELEVATION ON A 3" IRON ROD WITH A RED PLASTIC CONTROL CAP AND FLAGGING IN THE CENTER OF PROPERTY.

ELEVATION: 161.36' (GEOID 18B)

LEGEND

- COMMUNICATION RISER
- CURB INLET
- CURB INLET LID
- ELECTRIC BOX
- ELECTRIC METER
- ELECTRIC VAULT
- FIRE HYDRANT
- GAS RISER
- NG NATURAL GROUND
- POWER POLE
- SANITARY SEWER MANHOLE
- SIGN
- SPOT ELEVATION
  - EA = EDGE OF ASPHALT
  - EW = EDGE OF WALK
  - G = GUTTER
  - T = TOP OF CURB
  - TP = TOP OF PAVEMENT
- STORM DRAIN MANHOLE
- SURVEY MONUMENT
- T.B.M. = TEMPORARY BENCHMARK
- TRANSFORMER
- TURN ARROW
- WATER METER
- WATER VALVE
- WATER VAULT
- ELECTRIC (OVERHEAD)
- ELECTRIC (UNDERGROUND)
- GAS
- SEWER
- STORM
- STRIPES
- VEGETATION
- WATER
- ASPHALT
- CONCRETE
- DEC = DECIDUOUS

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
JULY 23, 2004
ANTHONY B. RYAN
58833
RENEWS: DECEMBER 31, 2020

WEDDLE SURVEYING Excellence is our benchmark. INC.
6950 SW HAMPTON ST., STE. 170, TIGARD, OR 97223
PH: (503) 941-9585 FAX: (503) 941-9640
www.weddlesurveying.com

JOB NO. 5968

APRIL REVIEW

MDG ARCHITECTURE | INTERIORS

NOT FOR CONSTRUCTION
FOR REFERENCE ONLY

WDY Structural · Civil Engineers
6443 SW Beaverton-Hillsdale Hwy, suite 210
Portland, Oregon 97221
ph:503.203.8111 fx:503.203.8122
www.wdyi.com

Client/ Owner:
PACIFIC NW PROPERTIES

6600 SW 105TH AVE,
SUITE 175
BEAVERTON, OR 97008

Project:
LEVETON 99 - BUILDING 1

12935 SW LEVETON DR
TUALATIN OR 97062

Sheet Title:
EXISTING CONDITIONS

Revisions:

Date: 04/18/2025
Job Number: 124064
Sheet
C1.2

KEYNOTES FOR THIS SHEET

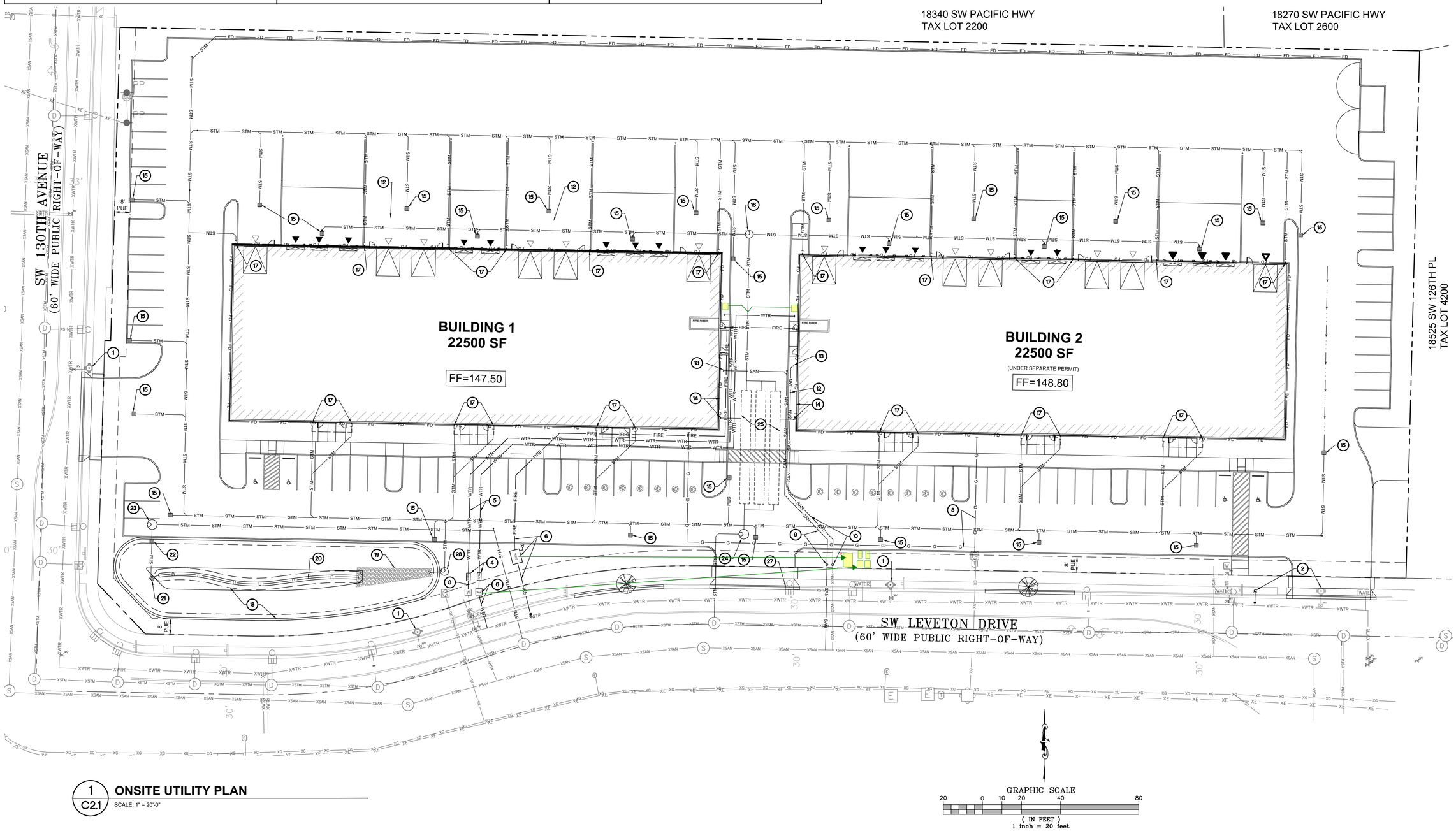
MARK	DESCRIPTION
1	PROTECT EXISTING FIRE HYDRANT TO REMAIN.
2	EXISTING FIRE HYDRANT AND REFLECTIVE MARKER TO BE REMOVED AND RELOCATED.
3	INSTALL NEW X" WATER SERVICE OFF EXISTING X" METER. CONTRACTOR TO FIELD VERIFY SIZE AND LOCATION.
4	INSTALL NEW X" ABOVE GROUND RPBA.
5	EXTEND X" DOMESTIC WATER SERVICE TO BUILDING. SEE PLUMBING FOR CONTINUATION INTO BUILDING.
6	TAP EXISTING WATER MAIN AND INSTALL NEW X" WATER METER AND SERVICE. EXTEND TO RPBA WITH X" PIPE.
7	NEW NATURAL GAS SERVICE OFF EXISTING METER. CONTRACTOR TO COORDINATE INSTALLATION WITH GAS PROVIDER.
8	NEW NATURAL GAS SERVICE OFF EXISTING METER. CONTRACTOR TO COORDINATE INSTALLATION WITH GAS PROVIDER.
9	INSTALL APPROX. X LF OF NEW X" DIA. PVC ASTM D3034, SDR 35 SANITARY PIPE AT 2.0% MIN SLOPE. INSTALL C.O. AT PROPERTY LINE PER DETAIL X. IE AT C.O.= 134.58±.
10	INSTALL APPROX. X LF OF NEW X" DIA. PVC ASTM D3034, SDR 35 SANITARY PIPE AT 2.0% MIN SLOPE. INSTALL C.O. AT PROPERTY LINE PER DETAIL X. IE AT C.O.= 134.58±.
11	INSTALL VALVE FOR SPILL PROTECTION CONTROL, SEE SIMILAR VALVE BOX DETAIL X. VALVE TO REMAIN OPEN
12	INSTALL SANITARY C.O. ASSEMBLY PER DETAIL X/C3.X AND X/C3.X. SEE PLAN FOR INVERT ELEVATIONS.
13	INSTALL NEW X" DIA. PVC ASTM D3034, SDR 35 SANITARY PIPE. CONNECT TO SITE STORM AT 2.0% MIN SLOPE. SEE PLUMBING FOR CONTINUATION INTO BUILDING
14	INSTALL 4" DIA. PERIMETER FOUNDATION DRAIN AT 0.5% SLOPE TO B-W-V PER DETAIL X/C3.X AND X/C3.X. CONNECT TO SITE STORM WITH 4" ABS, SCHED. 40 STORM PIPE AT 1.5% MIN SLOPE.

KEYNOTES FOR THIS SHEET

MARK	DESCRIPTION
15	INSTALL NEW CONCRETE CATCH BASIN PER DETAILS X/C3X AND X/C3.X. SEE GRADING PLAN FOR RIM ELEVATIONS. CONNECT TO SITE STORM WITH 6" DIA. PVC ASTM D3034, SDR 35 STORM PIPE AT 1.0% MIN SLOPE.
16	INSTALL NEW (X) CARTRIDGE ADS BAYFILTER 522 CATCH BASIN FOR LOADING DOCK WATER QUALITY TREATMENT. SEE DETAIL ON SHEET C3.X. RIM= X IE (6" IN, W)= X IE (6" IN, E)= X IE (6" OUT, S)= X
17	INSTALL TYPICAL ROOF DRAIN DOWNSPOUT PER DETAIL X/C3.X. CONNECT TO SITE STORM WITH 6" DIA. ABS SCHED. 40 STORM PIPE AT 1.0% MIN SLOPE. CONFIRM EXACT LOCATIONS WITH ARCH DRAWINGS.
18	INSTALL NEW 0.5' DEEP VEGETATED SWALE AND 4' DEEP DETENTION POND WITH UNDERDRAIN FOR STORMWATER MANAGEMENT. SWALE BOTTOM= X POND BOTTOM= X TOP OF PONDING= X TOP OF FREEBOARD= X
19	INSTALL ODOT CLASS 100 RIP RAP SPLASH PAD AT PIPE OUTFALL TO BOTTOM OF BASIN. PLACE GEOTEXTILE BELOW RIP RAP.
20	INSTALL 4" PERF PIPE IN FABRIC SOCK AT 0.5% SLOPE. CONNECT TO DITCH INLET AT X% SLOPE.
21	INSTALL NEW DITCH INLET PER DETAIL X. RIM= IE OUT=
22	INSTALL NEW DITCH INLET PER DETAIL X. RIM= IE IN= IE OUT=

KEYNOTES FOR THIS SHEET

MARK	DESCRIPTION
23	INSTALL NEW DETENTION CONTROL MANHOLE FOR POND PER DETAIL X RIM= X IE (X" IN, S) IE (X" OUT, E)
24	INSTALL NEW DETENTION CONTROL MANHOLE FOR DETENTION PIPES PER DETAIL X RIM= X IE (X" IN, N) IE (X" OUT, W)
25	INSTALL 174 LF OF 60" DETENTION PIPE PER DETAIL X. IE= 137.80.
26	INSTALL STORM C.O. ASSEMBLY PER DETAIL X/C3.X AND X/C3.X. SEE PLAN FOR INVERT ELEVATIONS.
27	EXISTING CURB INLET TO BE REMOVED.
28	INSTALL NEW 48" MANHOLE PER DETAIL X.
29	INSTALL APPROX. X LF OF NEW X" DIA. PVC ASTM D3034, SDR 35 STORM PIPE AT X% MIN SLOPE.



1 C2.1 **ONSITE UTILITY PLAN**

SCALE: 1" = 20'-0"

APRIL REVIEW

MDG ARCHITECTURE | INTERIORS

NOT FOR CONSTRUCTION

WDY
Structural · Civil Engineers
6443 SW Beaverton-Hillsdale Hwy, suite 210
Portland, Oregon 97221
ph:503.203.8111 fx:503.203.8122
www.wdyi.com

Client/ Owner:

PACIFIC NW PROPERTIES

6600 SW 105TH AVE,
SUITE 175
BEAVERTON, OR 97008

Project:

LEVETON 99 - BUILDING 1

12935 SW LEVETON DR
TUALATIN OR 97062

Sheet Title:

ONSITE UTILITY PLAN

Revisions:

Date: 04/18/2025

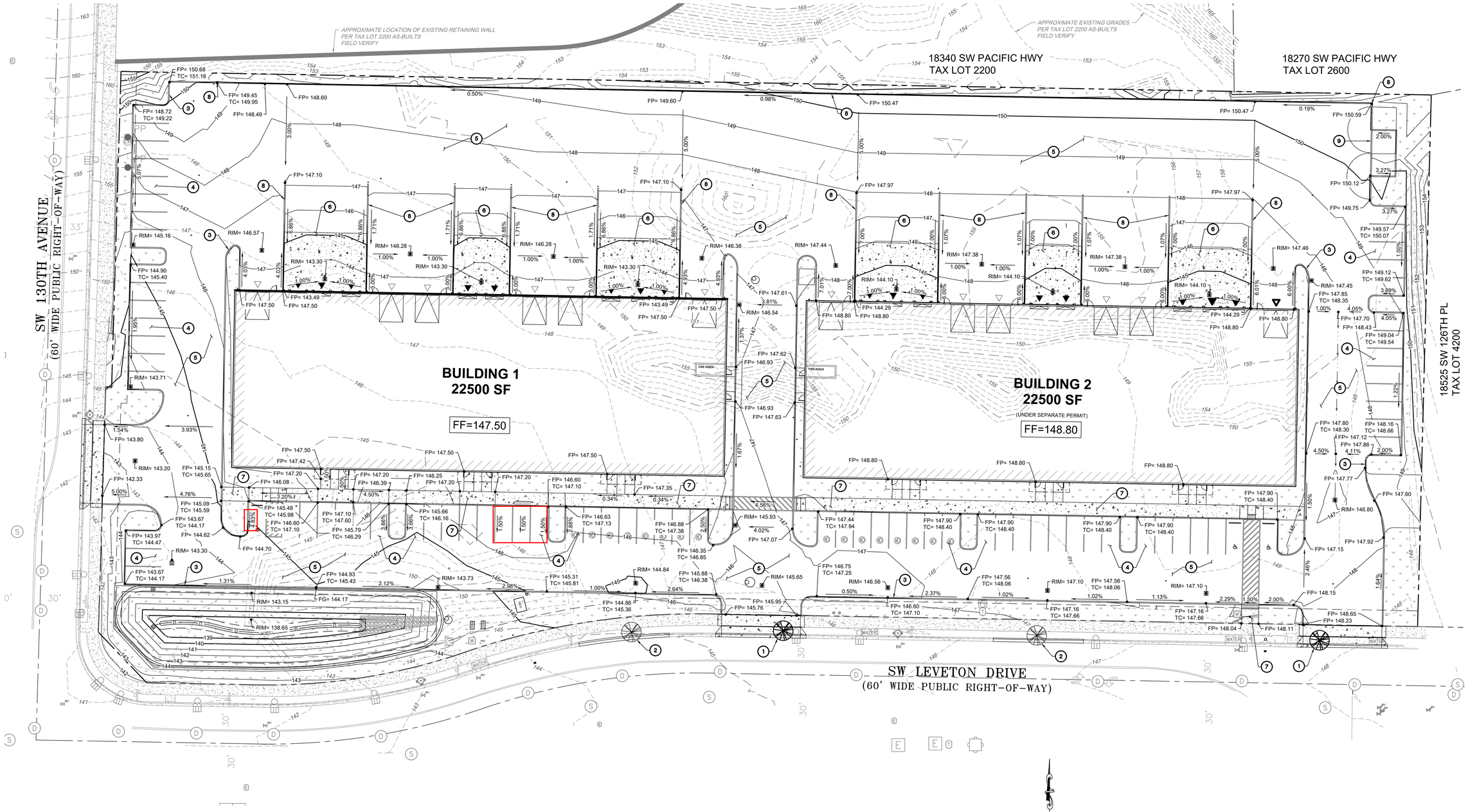
Job Number: 124064

Sheet

C2.1

KEYNOTES FOR THIS SHEET

MARK	DESCRIPTION
1	EXISTING STREET TREE TO BE REMOVED.
2	INSTALL NEW STREET TREE.
3	INSTALL NEW CURB PER DETAIL X.
4	INSTALL NEW TYPICAL ASPHALT PAVEMENT IN PARKING STALLS PER DETAIL X.
5	INSTALL NEW HEAVY ASPHALT PAVEMENT IN DRIVE AISLE PER DETAIL X.
6	INSTALL NEW CONCRETE PAVEMENT AT LOADING DOCKS PER DETAILS X/C3.0 AND X/C3.0.
7	INSTALL NEW CONCRETE SIDEWALK PER DETAIL X.
8	INSTALL NEW RETAINING WALL, BY OTHERS.
9	TRASH ENCLOSURE, SEE ARCH DRAWINGS.



1 C2.2 **ONSITE GRADING PLAN**
SCALE: 1" = 20'-0"

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 feet

APRIL REVIEW

NOT FOR CONSTRUCTION

MDG ARCHITECTURE | INTERIORS

WDY Structural · Civil Engineers
6443 SW Beaverton-Hillsdale Hwy, suite 210
Portland, Oregon 97221
ph:503.203.8111 fx:503.203.8122
www.wdyi.com

Client/ Owner:
PACIFIC NW PROPERTIES

6600 SW 105TH AVE,
SUITE 175
BEAVERTON, OR 97008

Project:
LEVETON 99 - BUILDING 1

12935 SW LEVETON DR
TUALATIN OR 97062

Sheet Title:
ONSITE GRADING PLAN

Revisions:

Date: 04/18/2025
Job Number: 124064
Sheet
C2.2

Attachment B
SW 130th Avenue Driveway Location and Correspondence with City of Tualatin

Diego Arguea

From: Diego Arguea
Sent: Wednesday, July 23, 2025 4:45 PM
To: 'Mike McCarthy'
Cc: Tony Doran; Hayden Ausland; Curt L Trolan
Subject: RE: Leveton 99 Project

Hi Mike,

Trucks will have access to all driveways, and circulation will occur in a counterclockwise fashion, so vehicles entering 130th would circulate the parking lot on the front side of the buildings that face Leveton, and they would be able to get to the rear that way. Trucks accessing from Leveton would enter the site and also circulate counterclockwise. If there are very large vehicles entering the site they will be directed toward the driveways along Leveton.

I spoke with Curt (applicant) a little earlier this afternoon, and we'd be happy to host a quick Teams call (with visuals) if there are any additional questions about the site plan or layout. We are both generally flexible after 1pm most weekdays.

Thanks,
Diego

Diego Arguea
Principal Engineer
(*he/him*)

Kittelson & Associates, Inc.
Transportation Engineering & Planning
503.535.7462 (direct)
503.334.3183 (cell)

From: Mike McCarthy <mmccarthy@tualatin.gov>
Sent: Wednesday, July 23, 2025 2:46 PM
To: Diego Arguea <darguea@kittelson.com>
Cc: Tony Doran <TDORAN@tualatin.gov>; Hayden Ausland <hausland@tualatin.gov>; Curt L Trolan <curt@mdgpc.com>
Subject: RE: Leveton 99 Project

[External Sender]

Hi Diego,

How will truck drivers be able to navigate the driveways to get to the loading docks on the north side of the building?

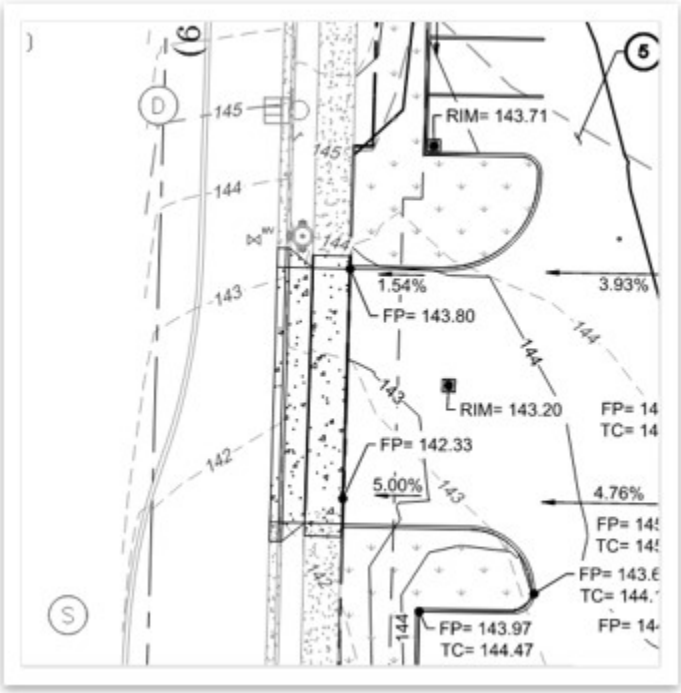
Mike McCarthy
Tualatin City Engineer
Phone: 503.691.3674

Cell: 971.666.0000

From: Diego Arguea <darguea@kittelson.com>
Sent: Wednesday, July 23, 2025 2:32 PM
To: Mike McCarthy <mmccarthy@tualatin.gov>
Cc: Tony Doran <TDORAN@tualatin.gov>; Hayden Ausland <hausland@tualatin.gov>; Curt L Trolan <curt@mdgpc.com>
Subject: RE: Leveton 99 Project

Hi Mike,

Thanks for your reply. The proposed site plan is attached for your reference, and the driveway, as shown, is located approximately 127 feet from Leveton Drive (centerline-to-centerline). To answer your second question, the driveway has been located approximately at the location of where the grades are matching (refer to screen capture below and attached Civil layout). The intent of this design decision is to prevent water on the street from flowing onto/into the site.



Please let us know if you have any questions or need additional information.

Thanks,
Diego

Diego Arguea
Principal Engineer
(*he/him*)

Kittelson & Associates, Inc.
Transportation Engineering & Planning
503.535.7462 (direct)
503.334.3183 (cell)

From: Mike McCarthy <mmccarthy@tualatin.gov>
Sent: Tuesday, July 22, 2025 3:36 PM
To: Diego Arguea <darguea@kittelson.com>
Cc: Tony Doran <TDORAN@tualatin.gov>; Hayden Ausland <hausland@tualatin.gov>; Curt L Trolan <curt@mdgpc.com>
Subject: RE: Leveton 99 Project

[External Sender]

Hi Diego,

Please send the site plan showing the access location proposed.

I noticed that at the south end of the property the land is below the street, with the street rising above the land as it moves north. Where do the grades actually match?

Mike McCarthy
Tualatin City Engineer
Phone: 503.691.3674
Cell: 971.666.0000

From: Diego Arguea <darguea@kittelson.com>
Sent: Tuesday, July 22, 2025 1:56 PM
To: Mike McCarthy <mmccarthy@tualatin.gov>
Cc: Tony Doran <TDORAN@tualatin.gov>; Hayden Ausland <hausland@tualatin.gov>; Curt L Trolan <curt@mdgpc.com>; Samuel Banceu <sbanceu@tualatin.gov>
Subject: RE: Leveton 99 Project

Hi Mike, Tony,

Please let me know if you have any questions or require additional documentation to maintain the driveway at the proposed location. As documented below, the stopping sight distance for a 15-mph design speed (80 feet) is exceeded and expected to be met upon site buildout (assuming hedges and trees are kept out of the sight-lines).

Thanks,
Diego

Diego Arguea
Principal Engineer
(*he/him*)

Kittelson & Associates, Inc.
Transportation Engineering & Planning
503.535.7462 (direct)
503.334.3183 (cell)

From: Diego Arguea
Sent: Tuesday, July 8, 2025 3:47 PM
To: 'Mike McCarthy' <mmccarthy@tualatin.gov>
Cc: 'Tony Doran' <TDORAN@tualatin.gov>; 'Hayden Ausland' <hausland@tualatin.gov>; 'Curt L Trolan'

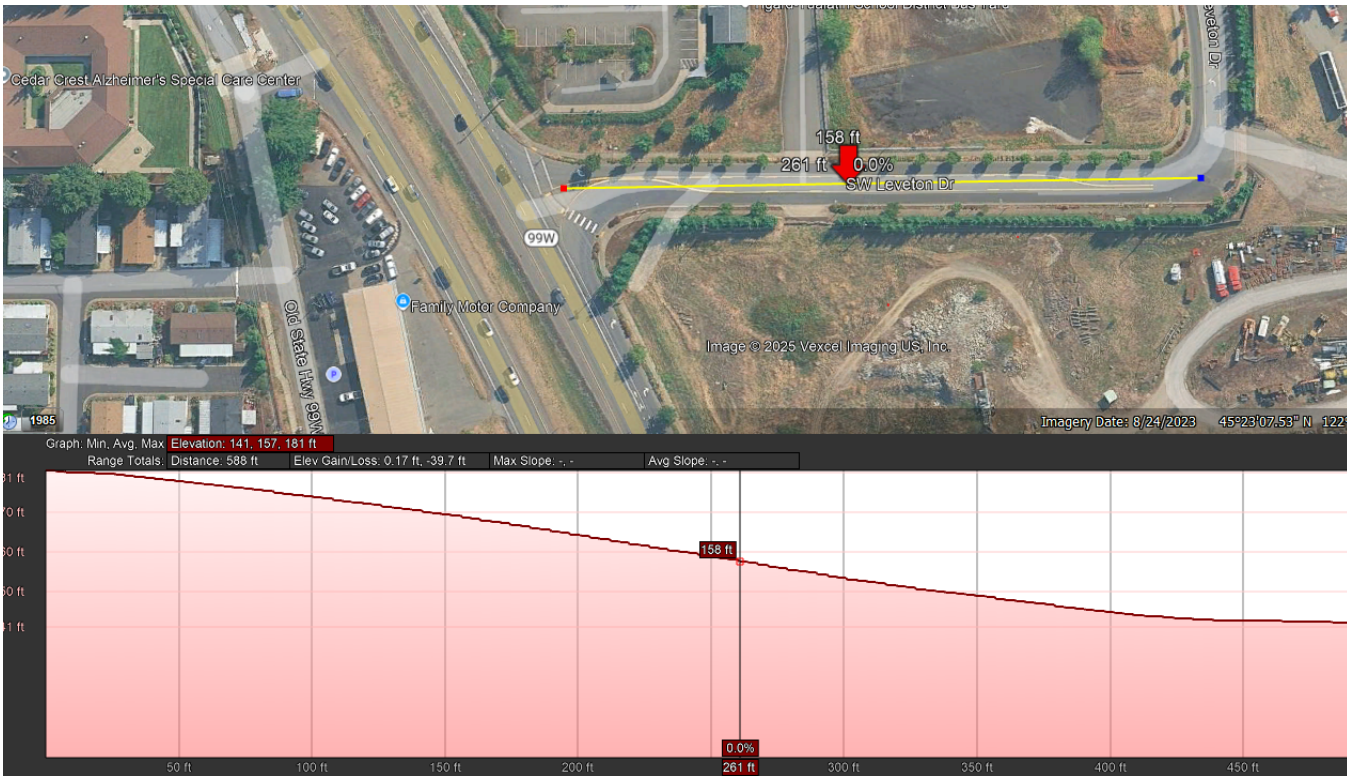
<curt@mdgpc.com>; 'Samuel Banceu' <sbanceu@tualatin.gov>
Subject: RE: Leveton 99 Project

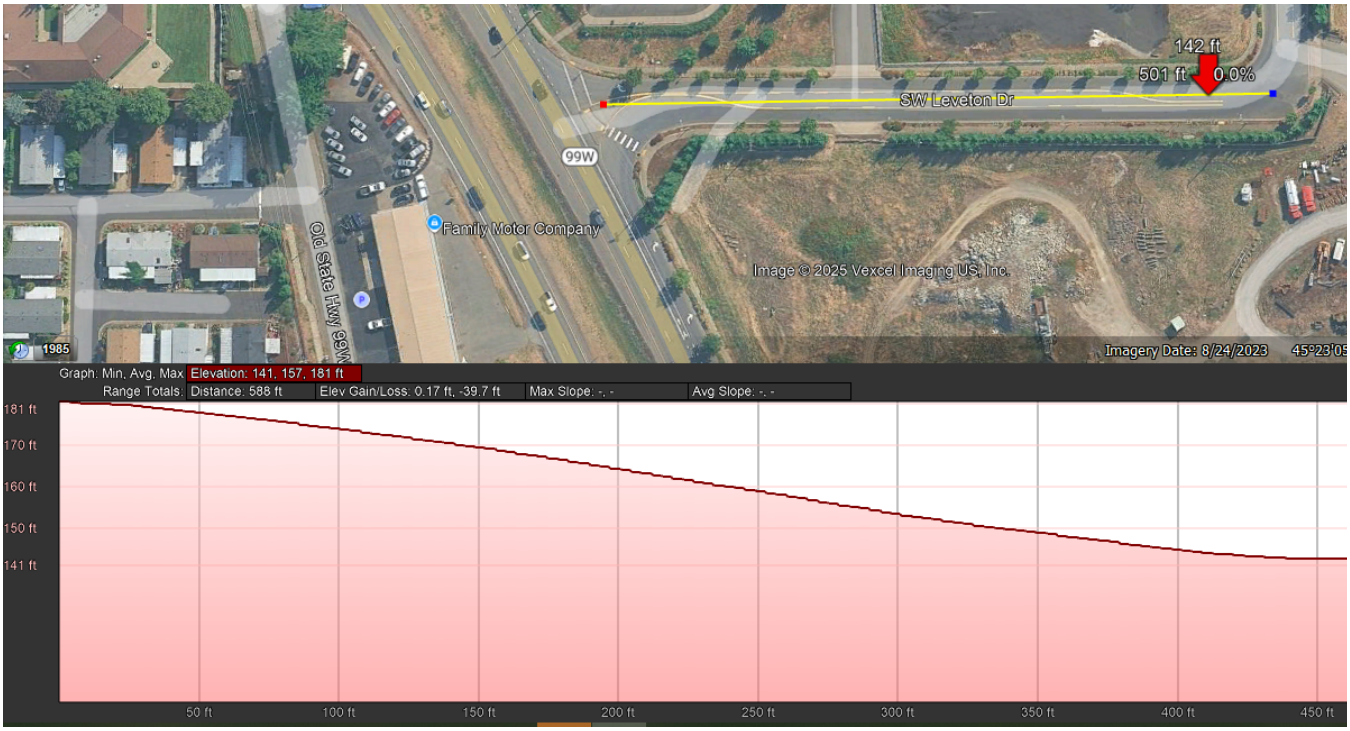
Hi Mike, Tony,

Thanks again for your input and help as we navigate the land use application process for access. Along Leveton Drive, as noted in the site plan, the current driveway is approximately 115 feet from the 90-degree bend in the roadway. The applicant prefers this location for the following reasons:

- The driveway location as proposed maximizes site distance to 99W and increases access spacing with the adjacent property to the north. Given the potential for simultaneous truck activity between the two sites, this separation provides less risk of overlapping conflicting movements.

- The roadway grade of Leveton Drive as it approaches 99W to the north is steep, and given the truck traffic to/from the site, would benefit from the lesser grade on the southern portion of Leveton (refer to images below)



- 

- The proposed driveway location also maximizes the distance to the crest vertical curve (located approximately 100 feet south of 99W). The driveway would be located approximately 410 feet south of the crest vertical curve and 115 feet north of Leveton – refer to image below.
-

- 

We recognize that the 115-feet distance to the elbow should provide sufficient sight distance to ensure safe maneuvers into and out of the driveway. While the posted speed along Leveton is 35mph, the 90-degree elbow will likely have a much lower operational speed. Please refer to the engineering analysis below to estimate the design speed for the 90-degree elbow.

Based on the *comfort speed formula* (ODOT Highway Design Manual Table 200-14), a design speed of 15 mph can be assumed for northbound traveling vehicles (shown in the image below, red arrow).

The comfort speed formula is used to generate the design speed to navigate the curve.

Screenshot of the formula output (from ODOT HDM Table 200-14):

$R=V^2/[15(e+f)]$

e=rate of superelevation
f= sidefriction factor
V= Vehicle speed, mph
R=Radius, ft

Assuming a 60' radius curve for the travel lane, a normal 2% cross slope, and a friction factor value based on a 25-mph design speed, the speed a vehicle could comfortably navigate that curve is 15mph:

Curve (R)	Cross Slope (e)	Friction Factor	Speed (mph)
60	0.02	0.23	15

Per AASHTO design recommendations for intersection and stopping sight distances, a 15mph design speed corresponds to 170 feet and 80 feet respectively (refer to AASHTO table below). Also documented in AASHTO guidelines (page 9-35, Section 9.5.1), "*If the available sight distance for an entering or crossing vehicle is at least equal to the appropriate stopping sight distance for the major road, then drivers have sufficient sight distance to anticipate and avoid collisions.*" This statement suggests that the stopping sight distance (SSD) is considered an acceptable metric for assessing sight distance-related driver safety. With 115 feet of SSD provided (80 feet per AASHTO), the driveway location would exceed the minimum AASHTO recommendations for a driver to avoid collisions.

Table 9-7. Design Intersection Sight Distance—Case B1, Left Turn from Stop

U.S. Customary				Metric			
Design Speed (mph)	Stopping Sight Distance (ft)	Intersection Sight Distance for Passenger Cars		Design Speed (km/h)	Stopping Sight Distance (m)	Intersection Sight Distance for Passenger Cars	
		Calculated (ft)	Design (ft)			Calculated (m)	Design (m)
15	80	165.4	170	20	20	41.7	45
20	115	220.5	225	30	35	62.6	65
25	155	275.6	280	40	50	83.4	85
30	200	330.8	335	50	65	104.3	105
35	250	385.9	390	60	85	125.1	130
40	305	441.0	445	70	105	146.0	150
45	360	496.1	500	80	130	166.8	170
50	425	551.3	555	90	160	187.7	190
55	495	606.4	610	100	185	208.5	210
60	570	661.5	665	110	220	229.4	230
65	645	716.6	720	120	250	250.2	255
70	730	771.8	775	130	285	271.1	275
75	820	826.9	830				
80	910	882.0	885				

Please review the above information and let me know if you have any questions or comments, and/or if additional documentation is needed to support the driveway location.

Thanks in advance,
Diego

Diego Arguea
Associate Engineer
(*he/him*)

Kittelson & Associates, Inc.
Transportation Engineering & Planning
503.535.7462 (direct)

From: Diego Arguea
Sent: Monday, June 30, 2025 2:45 PM
To: Mike McCarthy <mmccarthy@tualatin.gov>
Cc: Tony Doran <TDORAN@tualatin.gov>; Hayden Ausland <hausland@tualatin.gov>; Curt L Trolan <curt@mdgpc.com>; Samuel Banceu <sbanceu@tualatin.gov>
Subject: RE: Leveton 99 Project

Thanks Mike, and Tony for both of your replies. We will put together an engineering justification for the proposed location of the driveway and run it by you via email before formalizing into a memo. Thanks!

Diego Arguea
Associate Engineer
(*he/him*)

Kittelson & Associates, Inc.
Transportation Engineering & Planning
503.535.7462 (direct)

From: Mike McCarthy <mmccarthy@tualatin.gov>
Sent: Monday, June 30, 2025 2:38 PM
To: Diego Arguea <darguea@kittelson.com>
Cc: Tony Doran <TDORAN@tualatin.gov>; Hayden Ausland <hausland@tualatin.gov>; Curt L Trolan <curt@mdgpc.com>; Samuel Banceu <sbanceu@tualatin.gov>
Subject: FW: Leveton 99 Project

[External Sender]

Hi Diego,

Please demonstrate how the proposed access configuration meets the appropriate codes and standards to be a safe access. It appears the access to 130th may need to slide north a bit (which it seems would match grade pretty well).

Thanks,

Mike McCarthy
Tualatin City Engineer
Phone: 503.691.3674
Cell: 971.666.0000

From: Diego Arguea <darguea@kittelson.com>
Sent: Thursday, June 12, 2025 2:33 PM

To: bdonovan@tualatin.com
Cc: Mike McCarthy <mmccarthy@tualatin.gov>; Tony Doran <TDORAN@tualatin.gov>; Curt L Trolan <curt@mdgpc.com>
Subject: FW: Leveton 99 Project

Hi Bryce, I received an auto-reply from Mike indicating to reach out to you for any questions while he is away until June 20. Can you help with the request below? Perhaps Tony can also provide input. Thanks!

Diego Arguea
Associate Engineer
(*he/him*)

Kittelson & Associates, Inc.
Transportation Engineering & Planning
503.535.7462 (direct)

From: Diego Arguea
Sent: Thursday, June 12, 2025 2:16 PM
To: mmccarthy@tualatin.gov
Cc: Tony Doran <TDORAN@tualatin.gov>; Curt L Trolan <curt@mdgpc.com>
Subject: RE: Leveton 99 Project

Hi Mike,

We are working together with Curt Trolan on the Leveton site in Tualatin. There is a proposed driveway along 130th that was identified by Tony Doran as potentially needing a design exception request – can you let me know what is triggering the design exception (spacing, sight distance, etc.)? Also, is there a specific process or format for these type of requests or will a letter format be acceptable?

The proposed driveway location maximizes the distance to the crest vertical curve, approximately 410 feet south of the crest vertical curve and 115 feet north of Leveton – refer to image below. Note that for a 90-degree elbow like that of Leveton-to-130th we typically apply a 10-15 mph design speed to estimate sight distance requirements – does Tualatin have a standard speed assumption for a 90-degree elbow like this one?

Thanks in advance for your input!

Diego Arguea
Associate Engineer
(*he/him*)

Kittelson & Associates, Inc.
Transportation Engineering & Planning
503.535.7462 (direct)

From: Mike McCarthy <mmccarthy@tualatin.gov>
Sent: Thursday, May 22, 2025 5:33 PM
To: Curt L Trolan <curt@mdgpc.com>
Cc: Tony Doran <TDORAN@tualatin.gov>; Steve Koper <skoper@tualatin.gov>; Keith Leonard <kleonard@tualatin.gov>; Abby McFetridge <Amcfetridge@tualatin.gov>; Hayden Ausland <hausland@tualatin.gov>
Subject: RE: Leveton 99 Project

Hi Curt,

The requirements for the trip generation description are at:

Tualatin Traffic Study Requirements | The City of Tualatin Oregon Official Website

Yes this is a completeness item. As revisions are often needed to these, we would be willing to look at it before the rest of the package is submitted.

For the access location – the applicant will need to clearly state their request, why it is needed, and demonstrate how it meets all of the appropriate roadway design standards for spacing, sight distance, turning movements, etc.

Thanks,

Mike McCarthy
Tualatin City Engineer
Phone: 503.691.3674
Cell: 971.666.0000

From: Curt L Trolan <curt@mdgpc.com>
Sent: Wednesday, May 14, 2025 8:29 AM
To: Mike McCarthy <mmccarthy@tualatin.gov>
Cc: Tony Doran <TDORAN@tualatin.gov>
Subject: Leveton 99 Project

Mike,
On 2/26/2025 there was a pre-application meeting for a project we are calling the Leveton 99 project. It will be two concrete tilt up speculative industrial flex buildings at the corner of SW Leveton Dr and SW 130th Ave. Per the pre-application notes we were to reach out to you to confirm the scope of a trip generation letter as the trafic study requirements.
We would like to confirm what the scope conists of as well as confirm if the trip generation letter is a completeness item for the Architectural Review.
We also anticipate a request for the access on SW 130th Ave to be where it is show due to the slope of 130th and that north of that location there is a significant retaining wall and we understand that the current location of the access as shown may come with some restrictions or requirements and we would like to confirm what those may be and/or ask when those items will be confirmed. I assume during the AR review and conditions, but I wanted to ask.
If you could let us know what will be required, we would appreciate it.
Thank you

MDG
ARCHITECTURE | INTERIORS

Curt Trolan
Senior Architect

4875 SW Griffith Drive, Suite 300
Beaverton, Oregon 97005

Phone: 503-244-0552
Mobile: 503-679-8319
Web: www.mdgpc.com
Email: curt@mdgpc.com