

City of Willamina  
411 NE "C" Street  
PO Box 629  
Willamina OR 97396  
Telephone: 503-876-2242  
Fax: 503-876-1121  
ci.willamina.or.us

# PLANNING APPLICATION FORM

Property Address: 601 Churchman Street  
Willamina, OR

Assessor's Map & Tax Lot  Polk  Yamhill  
T6S R7W Sec1 Tax Lot(s) R6701 00502  
Tax Lot(s) \_\_\_\_\_

Zoning \_\_\_\_\_

Project Type (Please check all applicable):

- Annexation
- Conditional Use
- Home Occupation
- Lot Line Adjustment
- Non-Conforming Use
- Partition
- Signs
- Similar Use
- Subdivision and Planned Unit Development
- Variance
  - Minor
  - Major
- Zone Change
- Other: \_\_\_\_\_

Size of the Project (# of units, lots, sq. ft., etc.):  
60 Lot subdivision. See Dwg G-5 for lot details.

Attachments:

- (4) folded Maps/Site Plan to scale (if larger than 11" x 17")
- (1) 8 1/2" x 11" reduced copy of site plan
- Written Narrative/Response to Criteria
- Power of Attorney (if applicable)

## Description of Request

(include name of project and proposed uses)

Subdivide 10.3 acres into 59 Lots. 26 Lots will  
be townhouse lots. 33 lots will be conventional  
SF lots

(For Office Use)

COMPLETE PER: Engineering \_\_\_\_\_  
(Req'd Zn Chg, SPR, & Land Divisions)  
Planning \_\_\_\_\_

Property Owner: Willamina Ridgeview Hts, LLC  
Address: 275 N 70th Place  
Philomath, OR 97370  
Phone: 503-550-0583

Applicant: Keystone Builders Tim Wenger  
Address: PO Box 893  
Philomath, OR 97370  
Phone: 503-550-0583

Authorized Representative (if different from applicant):  
Steve Ward, Westech Engineering  
Address: 3841 Fairview Ind Dr SE, Suite 100  
Salem, OR 97302  
Phone: 503-585-2474 (C) 503-931-3460

Surveyor or Engineer (if applicable):  
Same as Authorized Representative  
Address: \_\_\_\_\_  
Phone: \_\_\_\_\_

CERTIFICATION: I hereby certify that the information on this application is correct and that I own the property or the owner has executed a Power of Attorney authorizing me to pursue this application (attached).

\_\_\_\_\_  
(Signature of Owner or Attorney-in-Fact) Date

\_\_\_\_\_  
(Signature of Additional Owner) Date

(For Office Use)

Date Application Received: \_\_\_\_\_

Date Application Complete: \_\_\_\_\_

Pre-app required? Y N Pre-app # \_\_\_\_\_

Fee Paid: \_\_\_\_\_ Initials: \_\_\_\_\_

File Number: \_\_\_\_\_

**A Subdivision Application Includes:**

- Application cover page (submitted to City)
- Explanation of Type II Action (copy for applicant)
- Preliminary Subdivision Plan for the subdivision (submitted to City)
- Submit materials showing compliance with the requirements of Section 3.107.02, A, 2:

- 2. In addition to the information listed in Subsection 3.106.03 of this ordinance, applicants for subdivisions, and planned unit developments shall submit the following:
  - a. The name, address and phone number of the applicant engineer, land surveyor, or person preparing the application;
  - b. Name of the PUD or subdivision.
  - c. Date the drawing was made.
  - d. Vicinity sketch showing location of the proposed land division.
  - e. Identification of each lot or parcel and block by number.
  - f. Gross acreage of property being subdivided or partitioned.
  - g. Direction of drainage and approximate grade of abutting streets.
  - h. Streets proposed and their names, approximate grade, and radius of curves.
  - i. Any other legal access to the subdivision, PUD or partition other than a public street.
  - j. Existing topography with contour lines at two (2) foot intervals if ten percent (10%) slope or less, five (5) foot intervals if exceeding ten percent (10%) slope, and a statement of the source of contour information.
  - k. Proposed grading and topographical changes with contour lines at two (2) foot intervals if ten percent (10%) or less slope, five (5) foot intervals if exceeding ten percent (10%) slope.
  - l. All areas to be offered for public dedication.

Written explanation of the subdivision request:  
Subdivide 10.3 acres into 59 lots in four phases.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Written response to criteria (attached)

- Deposit Fee: \$2,500.00 (\$750.00 plus \$450.00 per lot up to maximum of \$2,500.00) (Resolution No.16-17-013, May 9, 2017)

Applicants are required to reimburse the City for any and all costs associated with their Land Use Applications. Deposit amounts are based on City Planner, City Engineer, City Attorney and other occurred costs or fees associated with land use applications, must be paid in full by the applicant prior to the City of Willamina signing off on any land use decision. In the event that costs do not exceed the initial application deposit, the City shall reimburse the unused portion of the applicant's deposit.

### **Subdivision – Written Response to Criteria**

Criteria the Planning Commission uses to make a decision.

The applicant is required to submit written responses that provide evidence substantiating all of the following. Zone District resources are referenced on Page 5.

Willamina Development Code, Sections 2.208 and 3.107.01 (see 2.208).

Section 2.208:

- A. Explain how the minimum lot area conforms to the requirements of the zoning district in which the lots are located.

Response: All single family lots are a minimum of 5,000 square feet. All townhome lots are a minimum of 3,300 square feet.

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- B. Acknowledge that the depth of lots shall not be more than 2.5 times the width of the lot (note: Section 2.208.03, B, includes exceptions for *attached* single family dwellings and lots created for public uses).

Response: All lots conform to this standard except lots 65-66. Lots 65 and 66 are forced to be deeper lots due to the street configuration which is required to be ADA compliant.

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- C. In regards to access, explain how all lots provide a minimum frontage, on an existing or proposed public street, equal to the minimum lot width required by the underlying zone (note: Section 2.208.03, C, includes exceptions for some situations).

Response: All lots meet the minimum lot width standard.

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D. If “flag” lots are proposed, explain how the flag lot standards of Section 2.208.03, D, are met (Lot, Flag: A lot or parcel of land taking access by a relatively narrow strip of land between the major portion of the parcel and the point of public access to the parcel, all of which is under the same ownership or title.).

Response: No flag lots are proposed. Lots 80-82 are served by a 30' public R/W which also serves the City property to the south.

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E. Explain how “through” lots have been avoided except where essential to provide separation of residential development from major traffic arteries, adjacent non-residential activities, or to overcome specific disadvantages of topography and orientation (Lot, Through: An interior lot having frontage on two streets).

Response: Through lots have been avoided except for lots 47-52. The site topographic constraints do not allow B Street to be shifted north which forces the double fronting lots.

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F. Explain how the side lines of lots, as far as practicable, run at right angles to the right-of-way line of the street upon which the lots face.

Response: With minor exceptions, all lot lines are +/- 90° to the R/W line.

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G. Identify any utility easements provided on lot areas, existing or proposed, necessary to accommodate public utilities and state how their minimum width complies with the widths specified in Subsection 2.205.02(I).

Response: A 21' sanitary sewer and storm drain easement is required on the east side of lots 54-67 due to the topographic constraints of the site. Access easements from Highland Loop is provided to the proposed MH locations. The City has a W/L easement which is not located correctly. We propose to vacate the existing easement and provide a new easement in the correct location.

H. Explain how the length, width, and shape of blocks have been designed with regard to (1) providing adequate building sites for the use contemplated; (2) consideration of needs for convenient access, circulation, control, and safety of street traffic; and (3) recognition of limitations and opportunities of topography.

Response: The site has significant topographic constraints. It is not possible to extend streets to the north to to the topographic constraints. Two street stubs are provided to the east. The property to the south and west is fully developed.

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I. Explain how the following requirement is met: Blocks shall not exceed 1,000 feet in length between street lines, except blocks adjacent to arterial streets, or unless the previous adjacent development pattern or topographical conditions justify a variation. The recommended minimum distance between intersections on arterial streets is 1,800 feet.

Response: A variance to the block length is requested due to the existing lot configuration and topographic constraints. The proposed design loops the street system (Highland Loop) 6th street in the most efficient way possible given all of the constraints.

J. Explain how the requirements for public sewer facilities are met.

Response: Public sewer will be extended from the west for Phase III and to the intersection of C and 5th Streets for phases IV, V and VI.

K. Explain how the requirements for public water facilities, including fire protection, are met.

Response: Fire flow test were run with the development of Phase I and II to document the available fire flow is adequate. Additionally, the development will loop the water system providing redundancy and better fire flows to the development.

L. Explain how the requirements for public storm drainage facilities are met.

Response: Stormwater detention is proposed for the development through the use of detention pipes similar to Phase I and II.

M. Explain how the requirements for public street improvements are met, including gutters, curbs, sidewalks, and any dedication of public rights-of-way.

Response: All streets will be improved to City Standards.

N. Explain how the requirements for public street improvements for street lights and street signs are met.

Response: Street lights and signing will be installed per City Standards.

O. Explain how the requirement for public park dedication or fee in lieu of is met.

Response: A fee in lieu is proposed to be paid to the City

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P. Explain how the proposed subdivision is laid out to provide safe, convenient, and direct vehicle, bicycle and pedestrian access to nearby residential areas, transit neighborhood activity centers such as schools and parks, commercial areas, and industrial areas; and to provide safe, convenient and direct traffic circulation. At a minimum, "nearby" is interpreted to mean uses within one quarter (1/4) mile which can be reasonably expected to be used by pedestrians, and uses within 1 mile of the subdivision boundary which can reasonably expected to be used by bicyclists.

Response: The subdivision as proposed is the most efficient way for all modes of transportation. All traffic is directed to 6th Street and Willamina Drive which directs traffic directly to the City center.

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Q. Explain how the pedestrian/bicycle and accessway connections with adjoining arterial and collector streets are provided when any portion of the site's arterial or collector street frontage is over 600 feet from either a subdivision access street or other pedestrian/bicycle accessway. When natural features (e.g., adverse topography, streams, wetlands) exist, explain how they affect the provisions of pedestrian/bicycle and accessways and if they are proposed to be limited. If buildings or other existing developments on adjacent lands may physically preclude a connection now or in the future considering the potential for redevelopment, explain what the application proposes as a solution.

Response: The proposed development has two direct connections to 6th street which is a City Collector street.

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R. Explain how the park and recreation requirements of Section 2.208.05, B, 16 are met.

Response: The developer proposes a fee in lieu of payment to satisfy this requirement.

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*If additional space is needed, please attach an additional page(s).*

The property is zoned (check the appropriate box—continued on Page 6):

Single-family Residential (R-1): Section 2.101.

Two-family Residential (R-2): Section 2.102.

- \_\_\_ Multiple-family Residential (R-3): Section 2.103.
- \_\_\_ General Commercial (C-1): Section 2.104.
- \_\_\_ Commercial Residential (C-2): Section 2.105.
- \_\_\_ Industrial (M-1): Section 2.108.

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RECEIVED

AUG 25 2023

# PLANNING APPLICATION FORM

**Property Address:** Highlands Loop and 6th Street  
Willamina, OR

**Assessor's Map & Tax Lot**  Polk  Yamhill  
06S - R07W Sec 01 Tax Lot(s) 00502  
Tax Lot(s)

**Zoning** \_\_\_\_\_

Project Type (Please check all applicable):

- Annexation
- Conditional Use
- Home Occupation
- Lot Line Adjustment
- Non-Conforming Use
- Partition
- Signs
- Similar Use
- Subdivision and Planned Unit Development
- Variance
  - Minor
  - Major
- Zone Change
- Other: \_\_\_\_\_

Size of the Project (# of units, lots, sq. ft., etc.):  
\_\_\_\_\_

Attachments:

- (4) folded Maps/Site Plan to scale (if larger than 11" x 17")
- (1) 8 1/2" x 11" reduced copy of site plan
- Written Narrative/Response to Criteria
- Power of Attorney (if applicable)

### Description of Request

(include name of project and proposed uses)

Variance Request  
1. Lot width to Depth Ratio  
2. Through Lot Standard.  
3. Block Length Standard.

(For Office Use)

COMPLETE PER: Engineering \_\_\_\_\_  
(Req'd Zn Chg, SPR, & Land Divisions)  
Planning \_\_\_\_\_

**Property Owner:** Keystone Builder, LLC - Tim Wenger  
Address: PO Box 893  
Philomath, OR 97370  
Phone: 503-550-0583

**Applicant:** Same as Owner  
Address: \_\_\_\_\_  
Phone: \_\_\_\_\_

**Authorized Representative** (if different from applicant):  
Same as Owner  
Address: \_\_\_\_\_  
Phone: \_\_\_\_\_

**Surveyor or Engineer** (if applicable):  
Steve Ward - Westech Engineering  
Address: 3841 Fairview Industrial Dr SE Suite 100  
Salem, OR 97302  
Phone: 503-585-2474

**CERTIFICATION:** I hereby certify that the information on this application is correct and that I own the property or the owner has executed a Power of Attorney authorizing me to pursue this application (attached).

[Signature] 8/25/23  
(Signature of Owner or Attorney-in-Fact) Date

\_\_\_\_\_  
(Signature of Additional Owner) Date

(For Office Use)  
Date Application Received: \_\_\_\_\_  
Date Application Complete: \_\_\_\_\_  
Pre-app required? Y N Pre-app # \_\_\_\_\_  
Fee Paid: \_\_\_\_\_ Initials: \_\_\_\_\_  
File Number: \_\_\_\_\_



RECEIVED

AUG 23 2023

## Ridgeview Subdivision Phases III – VI Variance Request

### Willamina Development Code 2-100

### 2.208 DEVELOPMENT STANDARDS FOR LAND DIVISIONS

#### 2.208.3 Standards for Lots or Parcels

A. Minimum lot area: Minimum lot area shall conform to the requirements of the zoning district in which the parcel is located.

B. Lot width and depth: The depth of a lot or parcel shall not be more than two and a half (2.5) times the width of the parcel, with the following exceptions:

1. Individual lots for attached dwelling units shall not be less than twenty (20) feet in width. Lot depth may vary, but shall be adequate to provide a minimum of 300 square feet of semiprivate outdoor living space for each unit.

2. Individual lots for single-family attached dwelling units shall be designed so that lot depth is not greater than three (3) times lot width.

***Variance request and justification:*** Lots 33, 35 through 46, 65, 66, 84 and 85 require a variance to the lot width-to-depth ratio. The variance requested is due to the existing property configuration and topographic constraints of the site. The northerly portion of the property is very steep eliminating the possibility of a street which would negate the need for a variance for lots 35 through 46. Because of the existing topography, it is necessary to have long, skinny lots (Lots 35-46). The configuration of Lots 33, 65, 66, 84 and 85 are restricted due to the existing property boundaries and the required street layout required to connect to the existing street network and provide ADA accessible routes. The lot width to depth ratio for these lots is not significantly over the Standard.

3. Parcels created for public utility uses or in zones where there is no minimum lot area requirement shall be exempt from width to depth ratio provisions.

E. Through Lots: Through lots shall be avoided except where essential to provide separation of residential development from major traffic arteries, adjacent non-residential activities, or to overcome specific disadvantages of topography and orientation. Screening or buffering, pursuant to the provision of Section 2.207, may be required by the City during the review of the land division request.

***Variance request and justification: Lots 47 through 52 require a variance to the Through Lot Standard. The variance requested is due to the existing property configuration and topographic constraints of the site. The northerly portion of the property is very steep eliminating the possibility of moving Kindness Street north to allow lots on north of Lots 47 through 52 negating the need for a variance.***

#### 2.208.4 Standards for Blocks

A. General: The length, width, and shape of blocks shall be designed with regard to providing adequate building sites for the use contemplated; consideration of needs for convenient access, circulation, control, and safety of street traffic; and recognition of limitations and opportunities of topography.

B. Sizes: Blocks shall not exceed 1,000 feet in length between street lines, except blocks adjacent to arterial streets, or unless the previous adjacent development pattern or topographical conditions justify a variation. The recommended minimum distance between intersections on arterial streets is 1,800 feet.

***Variance request and justification: The block length of Highland Loop and 6<sup>th</sup> Street is just over 2,300 feet. This is due to the existing property configuration and topographic constraints of the site. The northerly portion of the property is very steep eliminating the possibility of any streets extending north. The City owns a 1.3 acre parcel, occupied by the City's water tank and pump station, in the middle of the development on the south side of the development. It is not possible to extend the Kindness Court south to 6th Street through the City property to eliminate the need for a variance.***

RECEIPT

City of Willamina

411 NE C Street  
Willamina, Oregon 97396  
503-876-2242

NO. 12396

DATE 8/25/23

RECEIVED FROM Keystone Builders, LLC \$ 1800.00

DOLLARS

FOR 3 Variance Apps Tax Lot 00502

AMOUNT OF ACCOUNT		
THIS PAYMENT	1800.00	
BALANCE DUE		0

CASH  
 CHECK 13428  
 CREDIT CARD BY CA  
 MONEY ORDER

Receipt No: 16.000618 Aug 25, 2023

Keystone Builders LLC

Planning  
 3 Variance Applications 1,800.00  
 Tax Lot 00502

Total: 1,800.00

=====

Check  
 Check No: 13428 1,800.00  
 Total Applied: 1,800.00

Change Tendered: .00

=====

08/25/2023 9:58 AM



DRAWINGS FOR:

# RIDGEVIEW SUBDIVISION - PHASES III - VI

FOR:

KEYSTONE BUILDERS, LLC  
P.O. BOX 893  
PHILOMATH, OR 97370  
TIM WENGER  
503-550-0583

PROJECT LOCATION  
TAX LOT 500, NORTH 1/2 SECTION 1,  
T.6S., R.7W., W.M.  
WILLAMINA, YAMHILL COUNTY, OREGON



Know what's below.  
Call before you dig.

CIVIL ENGINEERING:

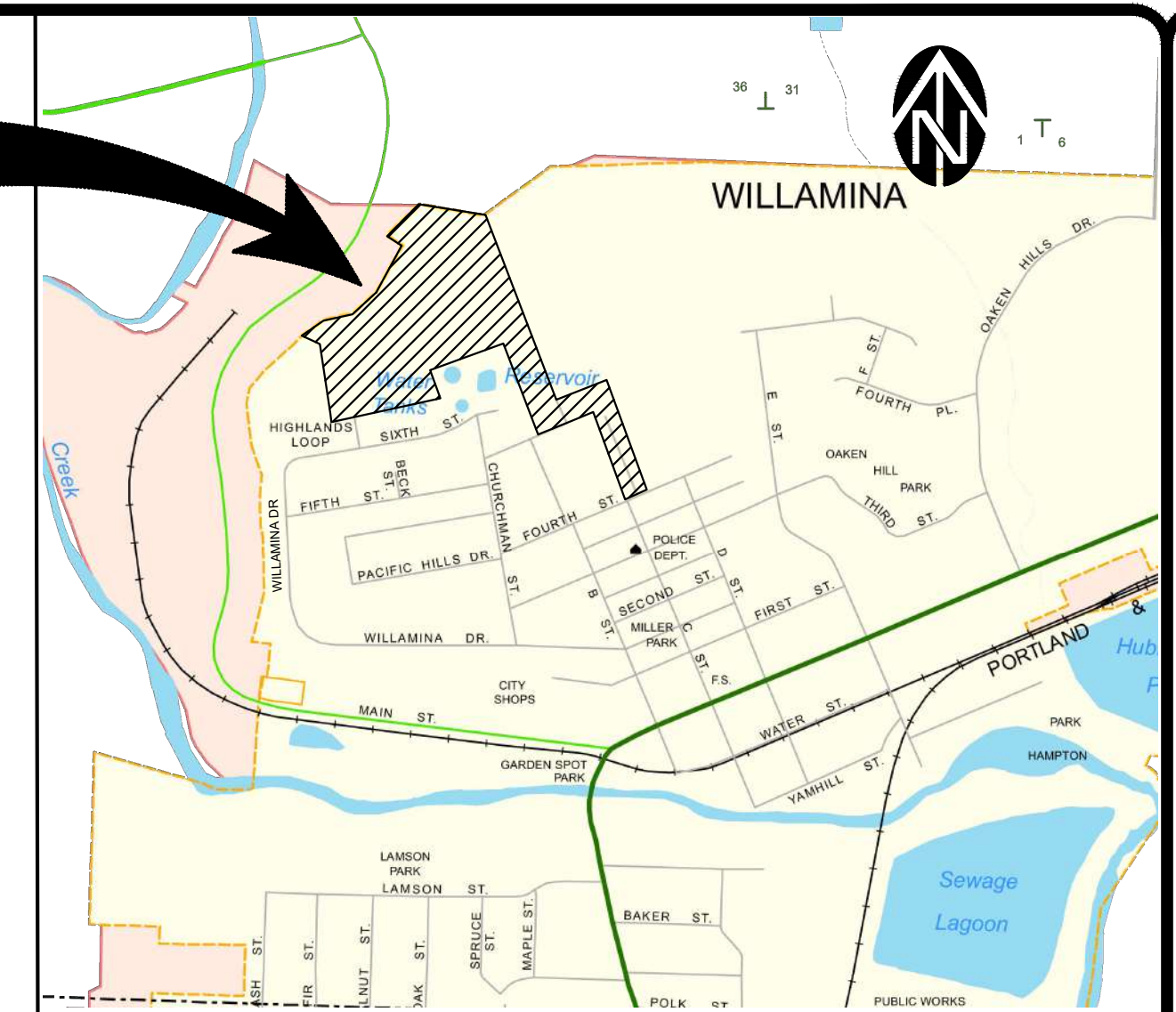
WESTECH ENGINEERING, INC.  
3841 FAIRVIEW INDUSTRIAL DR.  
SE  
SALEM, OREGON 97302  
CONTACT: MR. STEVE WARD  
(503) 585-2474

SURVEYOR:

LELAND MCDONALD &  
ASSOCIATES  
3765 RIVERSIDE DRIVE  
MCMINNVILLE, OREGON 97128  
CONTACT: MR. LELAND  
MCDONALD  
(503) 472-7904

PROPOSED LEGEND

- STORM DRAINAGE PIPE
- SANITARY SEWER PIPE
- WATER PIPE
- ▣ CATCH BASIN
- < CULVERT
- ⊙ SANITARY SEWER MANHOLE
- ⊙ STORM DRAINAGE MANHOLE
- ⊙ WATER METER
- ⊙ GATE VALVE
- ⊙ FIRE HYDRANT
- ⊙ WATER LINE FITTINGS
- ⊙ GAS METER
- ⊙ ELECTRICAL VAULT
- ⊙ STREET LIGHT AND POLE
- ⊙ SIGN
- MAILBOX



Existing Conditions  
Legend

- EXISTING
- MONUMENT FOUND
  - ⊙ WATER METER
  - ⊙ POWER RISER
  - ⊙ LIGHT POLE
  - ⊙ POWER TRANSFORMER
  - ⊙ STORM DRAIN CATCH BASIN
  - ⊙ PHONE RISER
  - ⊙ GAS RISER
  - ⊙ CABLE RISER
  - ⊙ TOP OF CURB
  - WATER LINE
  - EDGE OF PAVEMENT
  - EDGE OF CONCRETE
  - MAJOR CONTOUR INTERVAL (5')
  - MINOR CONTOUR INTERVAL (1')
  - WOOD FENCE
  - STORM DRAIN
  - SANITARY SEWER
  - COMMUNICATIONS LINE
  - GAS LINE
  - UNDERGROUND POWER
  - PROPERTY LINE
  - ▣ ASPHALT
  - ▣ CONCRETE
- PROPOSED
- MONUMENT FOUND
  - ⊙ WATER METER
  - ⊙ POWER RISER
  - ⊙ LIGHT POLE
  - ⊙ POWER TRANSFORMER
  - ⊙ STORM DRAIN CATCH BASIN
  - ⊙ PHONE RISER
  - ⊙ GAS RISER
  - ⊙ CABLE RISER
  - ⊙ TOP OF CURB
  - WATER LINE
  - EDGE OF PAVEMENT
  - EDGE OF CONCRETE
  - MAJOR CONTOUR INTERVAL (5')
  - MINOR CONTOUR INTERVAL (1')
  - WOOD FENCE
  - STORM DRAIN
  - SANITARY SEWER
  - COMMUNICATIONS LINE
  - GAS LINE
  - UNDERGROUND POWER
  - PROPERTY LINE
  - ▣ ASPHALT
  - ▣ CONCRETE

NO.	DATE	DESCRIPTION	BY
1	04/2023		



**WESTECH ENGINEERING, INC.**  
CONSULTING ENGINEERS AND PLANNERS  
3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302  
Phone: (503) 585-2474 Fax: (503) 585-3966  
E-mail: westech@westech-eng.com

TIM WENGER  
RIDGEVIEW SUBDIVISION - PHASES III - VI  
COVER SHEET, LEGENDS, &  
VICINITY MAP

DRAWING  
G-1  
JOB NUMBER  
3154.2000

9/7/2023, 1:05:11 PM  
R:\Draws\WENGER\Willamina\_Highlands\Ridgeview\_Subdivision\_Ph\_III\Civil\Plots\PD-COVER & INDEX.dwg (G-1.tbl)









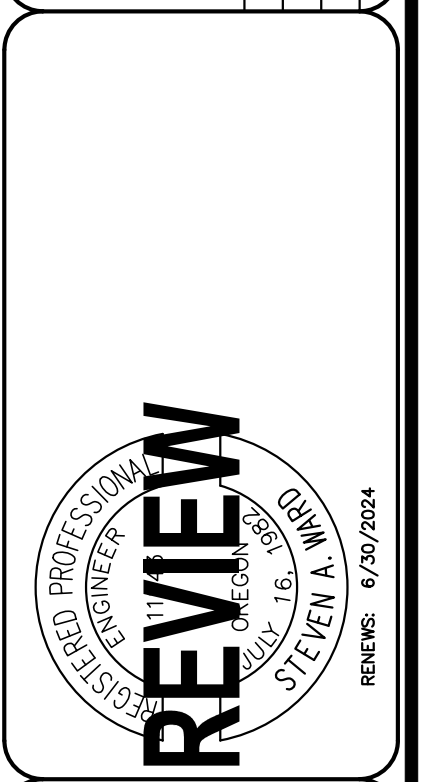
105. Monuments: Upon completion of street improvements, centerline monuments shall be established and protected in monument boxes at every street intersection and all points of curvature and points tangency of street centerlines.
106. Benchmarks: Elevation benchmarks shall be set at intervals established by the City Engineer. The benchmarks shall consist of a brass cap set in a curb or other immovable structure.

STORM PIPE TABLE	
Cover Depth	6" – 18" Diameter
Less than 2' Cover	Class 50 ductile iron pipe with bell and spigot joints and rubber gasket.
2' to 2-1/2' Cover	Pipe specified for lesser cover depths –or– Class 3, ASTM C-14 non-reinforced concrete pipe with bell and spigot joints & rubber gaskets, ASTM 150 Type II cement. –or– PVC pipe conforming to AWWA C900 DR 18 (6"-12") or AWWA C-905 (14"-18") with bell and spigot joints and rubber gasket
2-1/2' to 15' Cover	Pipe specified for lesser cover depths –or– PVC pipe conforming to ASTM D-3034 PVC SDR 35 (6"-15") or ASTM F-679 PVC solid wall SDR 35 (18") with bell and spigot joints and rubber gasket. –or– HDPE (high density polyethylene) pipe conforming to AASHTO M-252, (8"-10") or AASHTO M-294 (12"-18"). For slopes less than 6% the pipe shall be ADS N-12 IB ST, Hancor Sure-Lok F477, or approved equal. For slopes greater than 6% the pipe shall be ADS N-12 IB WT, Hancor Blue Seal, or approved equal with watertight pressure testable fittings, –except– jointed HDPE (high density polyethylene) pipe referenced above not permitted for depth to invert greater than 12 feet.
More than 15' Cover	See construction drawings.
Cover Depth	21" – 30" Diameter
Less than 2' Cover	Class 50 ductile iron pipe with bell and spigot joints and rubber gasket.
2' to 2-1/2' Cover	Pipe specified for lesser cover depths –or– Class IV ASTM C-76 reinforced concrete pipe with bell and spigot joints and rubber gasket, ASTM 150, Type II cement.
2-1/2' to 15' Cover (**HDPE allowed up to 60" diameter subject to max. depth limits listed)	Pipe specified for lesser cover depths –or– ASTM F-679 PVC solid wall SDR 35 pipe with bell and spigot joints and rubber gasket –or– HDPE (high density polyethylene) pipe conforming to AASHTO M-294. For slopes less than 6% the pipe shall be ADS N-12 IB ST, Hancor Sure-Lok F477, or approved equal. For slopes greater than 6% the pipe shall be ADS N-12 IB WT, Hancor Blue Seal, or approved equal with watertight pressure testable fittings, –except– (**)jointed HDPE (high density polyethylene) pipe referenced above not permitted for depth to invert greater than 12 feet.
More than 15' Cover	See construction drawings.
Greater than 30" diameter and other pipe materials:	Case by case basis.

REQUIRED TESTING AND FREQUENCY TABLE		Party Responsible for payment	
		Contractor	Others (see note 1)
Streets, Fire Lanes, Common Driveways, Parking Lots, Pads, Fills, etc.			
Subgrade	1 Test/4000 S.F./Lift (4 min), locations acceptable to approving agency (typically alternate sides of road or access aisles)	✓	See note 2 & note 3
Engineered Fills	1 Test/4000 S.F./Lift (4 min), locations acceptable to approving agency	✓	See note 2 & note 5
Baseroack	1 Test/4000 S.F./Lift (4 min), locations acceptable to approving agency (typically alternate sides of road or access aisles)	✓	See note 2 & note 3
Asphalt	1 Test/8000 S.F./Lift (4 min), locations acceptable to AA (typ. alternate as above)	✓	See note 2
Piped Utilities, All			
Trench Backfill	1 Test/200 Foot Trench/Lift (4 min)	✓	See note 2
Trench AC Restoration	1 Test/300 Foot Trench (4 min)	✓	See note 2
Water			
Pressure Test	(to be witnessed by Owner's Representative or approving agency)	✓	See note 4
Bacterial Water Test	Per Oregon Health Division	✓	See note 2
Chlorine Residual Test	Per City Requirements	✓	
Sanitary Sewer			
Air Test	Per City or APWA Requirements, whichever is more stringent	✓	See note 4
Mandrel	95% of actual inside diameter	✓	See note 4
TV Inspection	All. Lines must be cleaned prior to TV work	✓	
Manhole	(1) Vacuum test per manhole, witnessed by Owner's Representative or approving agency	✓	See note 2
Pressure Test (force main)	Hydrostatic pressure test, witnessed by Owner's Representative or approving agency	✓	See note 4
Storm			
Mandrel	95% of actual inside diameter	✓	See note 4
TV Inspection	All. Lines must be cleaned prior to TV work	✓	
Concrete, Block, etc.			
Slump, Air & Cylinders for structural & reinforced concrete, equipment slabs, curbs, sidewalks & PCC pavements. Unless otherwise specified, one set of cylinders per 100 cubic yards (or portion thereof) of each class of concrete placed per day. Slump & air tests required on same load as cylinders.		✓	See note 2
Building permit inspection & Special Inspection for structural concrete, reinforced masonry, epoxy anchors, etc. as required by applicable State Building Codes.		✓	See note 6
<p>Note 1: "Others" refers to Owner's authorized Representative or Approving Agency as applicable. Contractor responsible for scheduling testing. All testing must be completed prior to performing subsequent work.</p> <p>Note 2: Testing must be performed by an approved independent testing laboratory.</p> <p>Note 3: In addition to in-place density testing, the subgrade and base rock shall be proof-rolled with a loaded 10 yard dump truck provided by the Contractor. Baseroack proofroll shall take place immediately prior to (within 24 hours of) paving, and shall be witnessed by the Owner's authorized Representative or approving agency. Location and pattern of testing and proofroll to be as approved or directed by said Owner's authorized Representative or approving agency.</p> <p>Note 4: To be witnessed by the Owner's Representative or approving agency. The Contractor shall perform pretests prior to scheduling witnessed waterline or sanitary sewer pressure tests, or pipeline mandrel test.</p> <p>Note 5: The approved independent laboratory retained by the Contractor shall provide a certification (stamped by an engineer licensed in the State of Oregon) that the subgrade was prepared and all engineered fills were placed in accordance with the provisions of the construction drawings and the contract documents.</p> <p>Note 6: Regardless of who is responsible for payment, the Contractor is responsible for scheduling and coordinating any and all required inspections and Special Inspections as required by applicable building codes or jurisdictions having authority.</p>			

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**WESTTECH ENGINEERING, INC.**  
CONSULTING ENGINEERS AND PLANNERS

**WE**

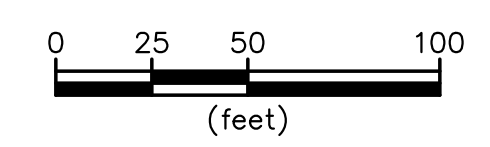
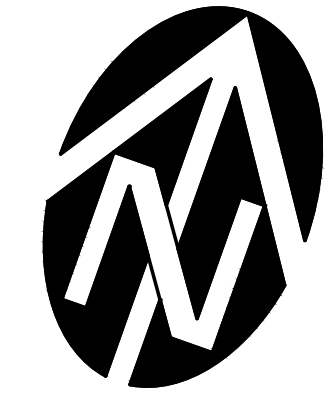
3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302  
Phone: (503) 585-2474 Fax: (503) 585-3966  
E-mail: westtech@westtech-eng.com

TIM WENGER  
RIDGEVIEW SUBDIVISION – PHASES III – VI  
CONSTRUCTION NOTES

DRAWING  
G-4  
JOB NUMBER  
3154.2000

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LOT SUMMARY		
60 LOTS	18 TOWNHOUSE LOTS	AVG. LOT SIZE: 3607 S.F. MIN. LOT SIZE: 3163 S.F. MAX. LOT SIZE: 5126 S.F.
	42 SINGLE-FAMILY LOTS	AVG. LOT SIZE: 6139 S.F. MIN. LOT SIZE: 5000 S.F. MAX. LOT SIZE: 13786 S.F.

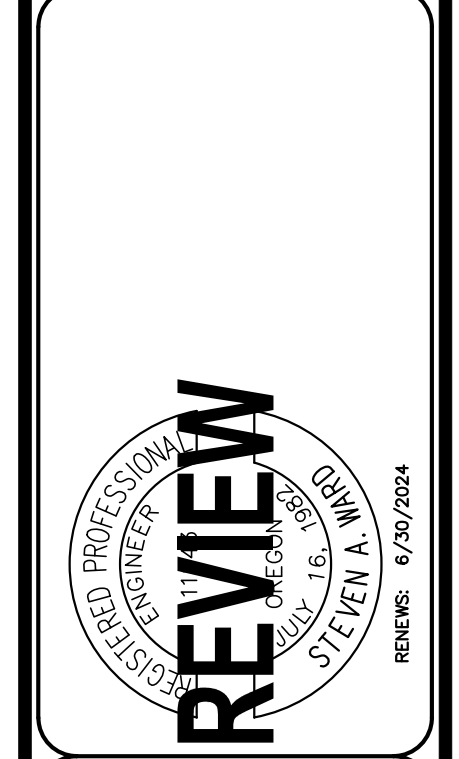


LEGEND	
THL	TOWN HOME LOT

**NOTES:**

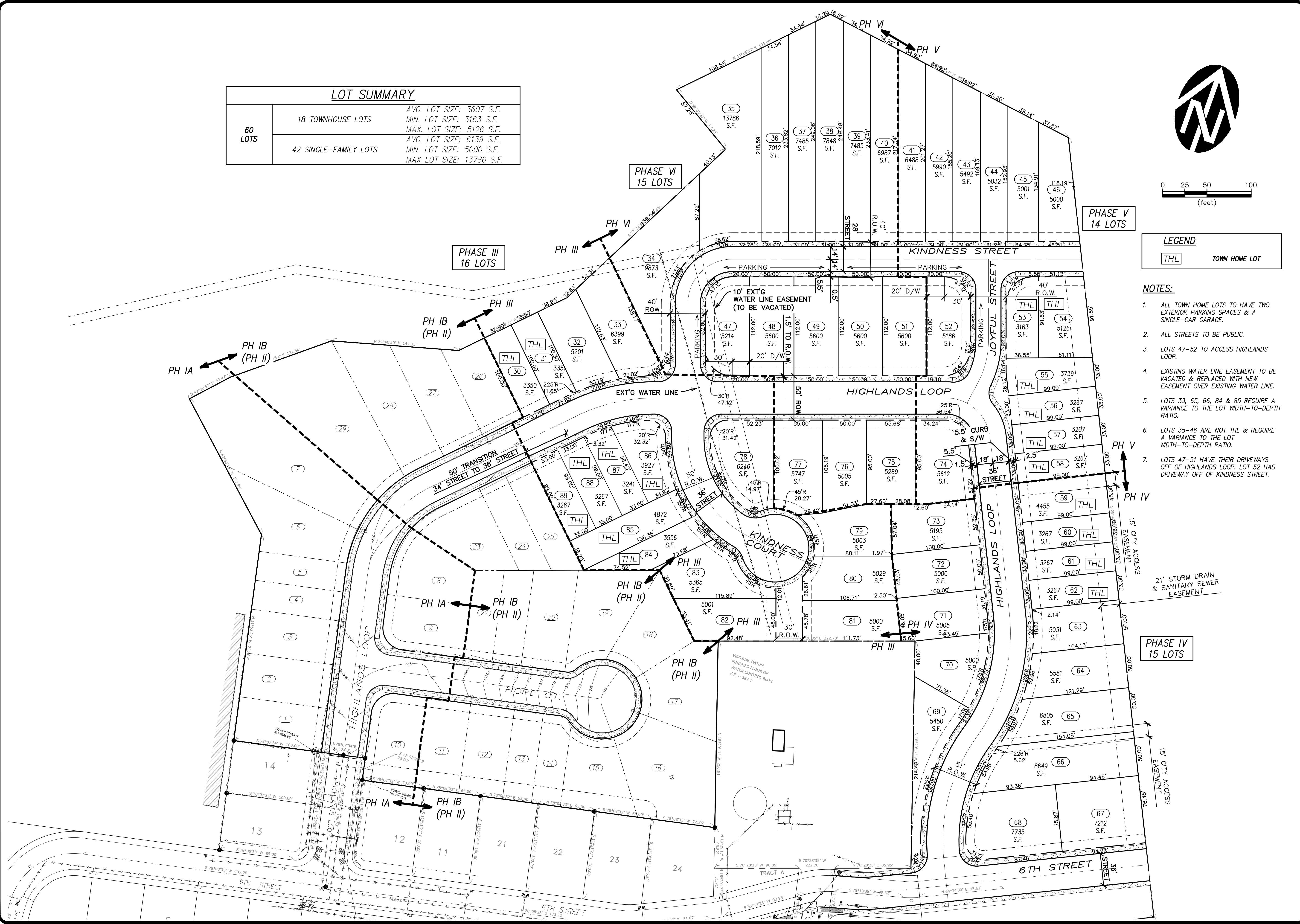
- ALL TOWN HOME LOTS TO HAVE TWO EXTERIOR PARKING SPACES & A SINGLE-CAR GARAGE.
- ALL STREETS TO BE PUBLIC.
- LOTS 47-52 TO ACCESS HIGHLANDS LOOP.
- EXISTING WATER LINE EASEMENT TO BE VACATED & REPLACED WITH NEW EASEMENT OVER EXISTING WATER LINE.
- LOTS 33, 65, 66, 84 & 85 REQUIRE A VARIANCE TO THE LOT WIDTH-TO-DEPTH RATIO.
- LOTS 35-46 ARE NOT THL & REQUIRE A VARIANCE TO THE LOT WIDTH-TO-DEPTH RATIO.
- LOTS 47-51 HAVE THEIR DRIVEWAYS OFF OF HIGHLANDS LOOP. LOT 52 HAS DRIVEWAY OFF OF KINDNESS STREET.

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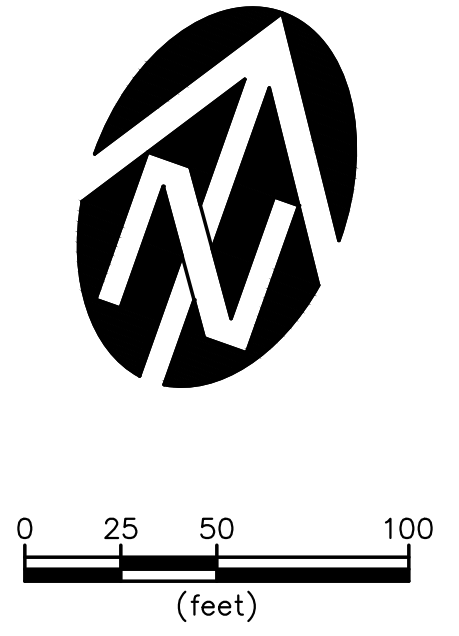
**WESTTECH ENGINEERING, INC.**  
 CONSULTING ENGINEERS AND PLANNERS  
 3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302  
 Phone: (503) 585-2474 Fax: (503) 585-3966  
 E-mail: westtech@westtech-eng.com

TIM WENGER  
 RIDGEVIEW SUBDIVISION - PHASES III - VI  
**PRELIMINARY PLAT PLAN**  
 DRAWING G-5  
 JOB NUMBER 3154.2000





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 IF NOT ONE INCH ON SCALES ACCURACLY

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**WESTECH ENGINEERING, INC.**  
 CONSULTING ENGINEERS AND PLANNERS

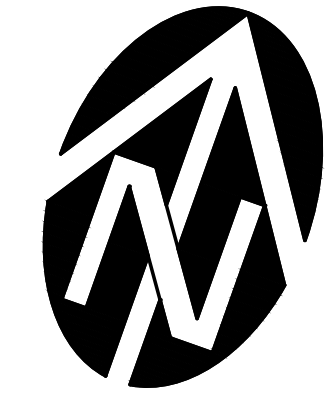
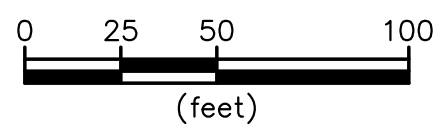
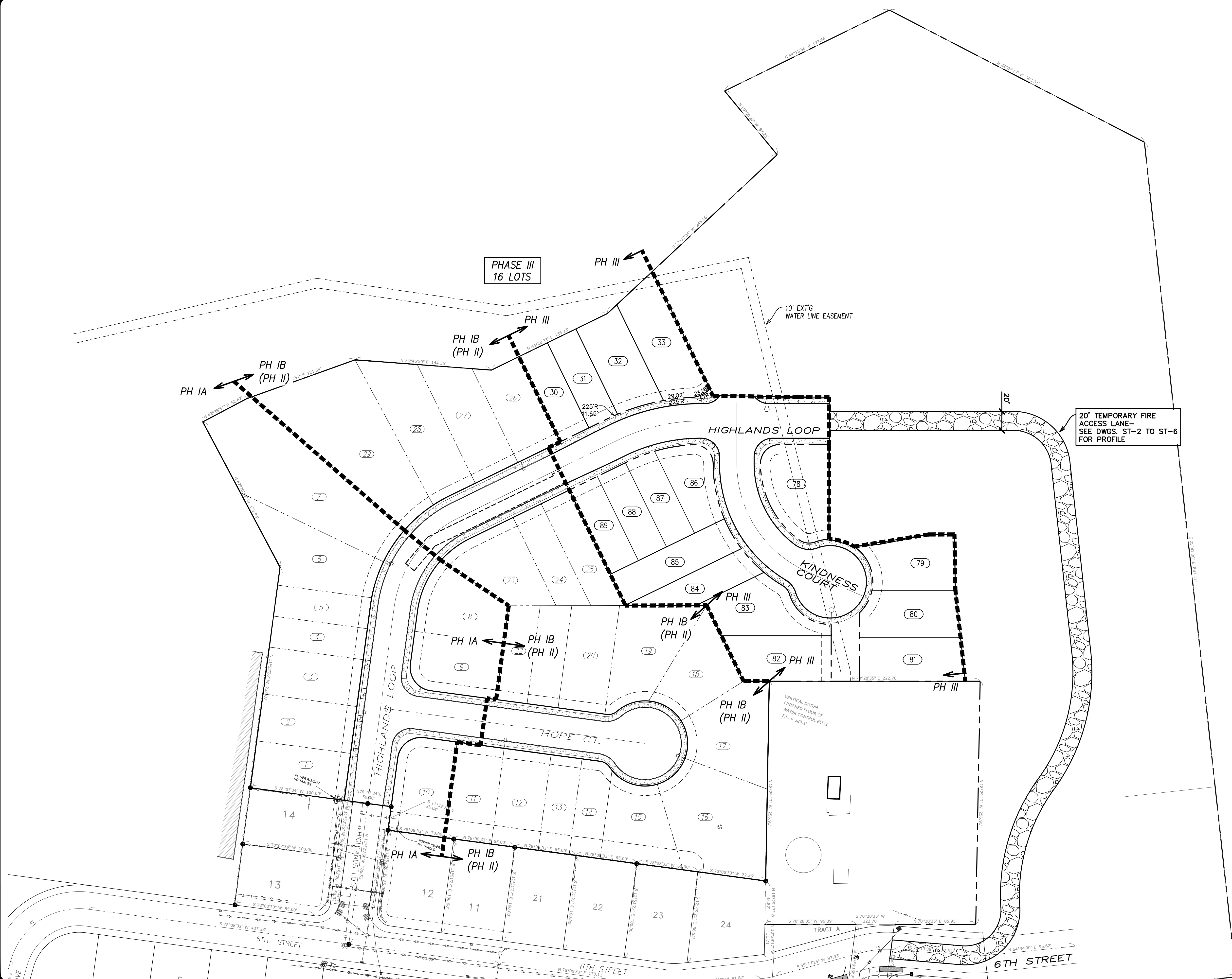
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 E-mail: westech@westech-eng.com

TIM WENGER  
 RIDGEVIEW SUBDIVISION - PHASES III - VI  
 OVERALL GRADING PLAN

DRAWING  
**G-6**  
 JOB NUMBER  
 3154.2000



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 R:\Data\Wenger\Williamina Highlands\Roadview Subdivision Ph. II\Civil\Plots\PD-OA FIRE LANE Plan.dwg. (G-7 tab)



20' TEMPORARY FIRE ACCESS LANE - SEE DWGS. ST-2 TO ST-6 FOR PROFILE

VERTICAL DATUM FINISHED FLOOR OF WATER CONTROL BLDG. F.F. = 889.1'

								
<b>WESTTECH ENGINEERING, INC.</b> CONSULTING ENGINEERS AND PLANNERS 3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302 Phone: (503) 585-2474 Fax: (503) 585-3966 E-mail: westtech@westtech-eng.com								
<b>TIM WENGER</b> RIDGEVIEW SUBDIVISION - PHASES III - VI <b>INTERIM FIRE ACCESS PLAN - PHASE III DEVELOPMENT</b>								
<b>DRAWING G-7</b>								
<b>JOB NUMBER 3154.2000</b>								
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DEQ EROSION CONTROL STANDARD NOTES:

1. Include a list of all personnel (by name and position) that are responsible for the design, installation and maintenance of stormwater control measures (e.g. ESCP developer, BMP installer (see Section 4.10), as well as their individual responsibilities. (Section 4.4.c.ii)
2. Visual monitoring inspection reports must be made in accordance with DEQ 1200-C permit requirements. (Section 6.5)
3. Inspection logs must be kept in accordance with DEQ's 1200-C permit requirements. (Section 6.5.a)
4. Retain a copy of the ESCP and all revisions on site and make it available on request to DEQ, Agent, or the local municipality. (Section 4.7)
5. The permit registrant must implement the ESCP. Failure to implement any of the control measures or practices described in the ESCP is a violation of the permit. (Sections 4 and 4.11)
6. The ESCP must be accurate and reflect site conditions. (Section 4.8)
7. Submission of all ESCP revisions is not required. Submittal of the ESCP revisions is only under specific conditions. Submit all necessary revision to DEQ or Agent within 10 days. (Section 4.9)
8. Sequence clearing and grading to the maximum extent practical to prevent exposed inactive areas from becoming a source of erosion. (Section 2.2.2)
9. Create smooth surfaces between soil surface and erosion and sediment controls to prevent stormwater from bypassing controls and ponding. (section 2.2.3)
10. Identify, mark, and protect (by construction fencing or other means) critical riparian areas and vegetation including important trees and associated rooting zones, and vegetation areas to be preserved. Identify vegetative buffer zones between the site and sensitive areas (e.g., wetlands), and other areas to be preserved, especially in perimeter areas. (Section 2.2.1)
11. Preserve existing vegetation when practical and re-vegetate open areas. Re-vegetate open areas when practicable before and after grading or construction. Identify the type of vegetative seed mix used. (Section 2.2.5)
12. Maintain and delineate any existing natural buffer within the 50-foot of waters of the state. (Section 2.2.4)
13. Install perimeter sediment control, including storm drain inlet protection as well as all sediment basins, traps, and barriers prior to land disturbance. (Sections 2.1.3)
14. Control both peak flow rates and total stormwater volume, to minimize erosion at outlets and downstream channels and streambanks. (Sections 2.1.1. and 2.2.16)
15. Control sediment as needed along the site perimeter and at all operational internal storm drain inlets at all times during construction, both internally and at the site boundary. (Sections 2.2.6 and 2.2.13)
16. Establish concrete truck and other concrete equipment washout areas before beginning concrete work. (Section 2.2.14)
17. Apply temporary and/or permanent soil stabilization measures immediately on all disturbed areas as grading progresses. Temporary or permanent stabilizations measures are not required for areas that are intended to be left unvegetated, such as dirt access roads or utility pole pads. (Sections 2.2.20 and 2.2.21)
18. Establish material and waste storage areas, and other non-stormwater controls. (Section 2.3.7)
19. Keep waste container lids closed when not in use and close lids at the end of the business day for those containers that are actively used throughout the day. For waste containers that do not have lids, provide either (1) cover (e.g., a tarp, plastic sheeting, temporary roof) to prevent exposure of wastes to precipitation, or (2) a similarly effective means designed to prevent the discharge of pollutants (e.g., secondary containment). (Section 2.3.7)
20. Prevent tracking of sediment onto public or private roads using BMPs such as: construction entrance, graveled (or paved) exits and parking areas, gravel all unpaved roads located onsite, or use an exit tire wash. These BMPs must be in place prior to land-disturbing activities. (Section 2.2.7)
21. When trucking saturated soils from the site, either use water-tight trucks or drain loads on site. (Section 2.2.7.f)
22. Control prohibited discharges from leaving the construction site, i.e., concrete wash-out, wastewater from cleanout of stucco, paint and curing compounds. (Sections 1.5 and 2.3.9)
23. Ensure that steep slope areas where construction activities are not occurring are not disturbed. (Section 2.2.10)
24. Prevent soil compaction in areas where post-construction infiltration facilities are to be installed. (Section 2.2.12)
25. Use BMPs to prevent or minimize stormwater exposure to pollutants from spills; vehicle and equipment fueling, maintenance, and storage; other cleaning and maintenance activities; and waste handling activities. These pollutants include fuel, hydraulic fluid, and other oils from vehicles and machinery, as well as debris, fertilizer, pesticides and herbicides, paints, solvents, curing compounds and adhesives from construction operations. (Sections 2.2.15 and 2.3)
26. Provide plans for sedimentation basins that have been designed per Section 2.2.17 and stamped by an Oregon Professional Engineer. (See Section 2.2.17.a)
27. If engineered soils are used on site, a sedimentation basin/impoundment must be installed. (See Sections 2.2.17 and 2.2.18)
28. Provide a dewatering plan for accumulated water from precipitation and uncontaminated groundwater seepage due to shallow excavation activities. (See Section 2.4)
29. Implement the following BMPs when applicable: written spill prevention and response procedures, employee training on spill prevention and proper disposal procedures, spill kits in all vehicles, regular maintenance schedule for vehicles and machinery, material delivery and storage controls, training and signage, and covered storage areas for waste and supplies. (Section 2.3)
30. Use water, soil-binding agent or other dust control technique as needed to avoid wind-blown soil. (Section 2.2.9)
31. The application rate of fertilizers used to reestablish vegetation must follow manufacturer's recommendations to minimize nutrient releases to surface waters. Exercise caution when using time-release fertilizers within any waterway riparian zone. (Section 2.3.5)
32. If an active treatment system (for example, electro-coagulation, flocculation, filtration, etc.) for sediment or other pollutant removal is employed, submit an operation and maintenance plan (including system schematic, location of system, location of inlet, location of discharge, discharge dispersion device design, and a sampling plan and frequency) before operating the treatment system. Obtain Environmental Management Plan approval from DEQ before operating the treatment system. Operate and maintain the treatment system according to manufacturer's specifications. (Section 1.2.9)
33. Temporarily stabilize soils at the end of the shift before holidays and weekends, if needed. The registrant is responsible for ensuring that soils are stable during rain events at all times of the year. (Section 2.2)
34. As needed based on weather conditions, at the end of each workday soil stockpiles must be stabilized or covered, or other BMPs must be implemented to prevent discharges to surface waters or conveyance systems leading to surface waters. (Section 2.2.8)
35. Sediment fence: remove trapped sediment before it reaches one third of the above ground fence height and before fence removal. (Section 2.1.5.b)
36. Other sediment barriers (such as biobags): remove sediment before it reaches two inches depth above ground height and before BMP removal. (Section 2.1.5.c)
37. Catch basins: clean before retention capacity has been reduced by fifty percent. Sediment basins and sediment traps: remove trapped sediments before design capacity has been reduced by fifty percent and at completion of project. (Section 2.1.5.d)
38. Within 24 hours, significant sediment that has left the construction site, must be remediated. Investigate the cause of the sediment release and implement steps to prevent a recurrence of the discharge within the same 24 hours. Any in-stream clean-up of sediment shall be performed according to the Oregon Department of State Lands required timeframe. (Section 2.2.19.a)
39. The intentional washing of sediment into storm sewers or drainage ways must not occur. Vacuuming or dry sweeping and material pickup must be used to cleanup released sediments. (Section 2.2.19)
40. Document any portion(s) of the site where land disturbing activities have permanently ceased or will be temporarily inactive for 14 or more calendar days. (Section 6.5.f.)
41. Provide temporary stabilization for that portion of the site where construction activities cease for 14 days or more with a covering of blown straw and a tackifier, loose straw, or an adequate covering of compost mulch until work resumes on that portion of the site. (Section 2.2.20)
42. Do not remove temporary sediment control practices until permanent vegetation or other cover of exposed areas is established. Once construction is complete and the site is stabilized, all temporary erosion controls and retained soils must be removed and disposed of properly, unless needed for long term use following termination of permit coverage. (Section 2.2.21)

Rev. 12/15/20  
By: Blair Edwards

YEAR: MONTH:	'21 04	'21 05	'21 06	'21 07	'21 08	'21 09	'21 10	'21 11	'21 12	'22 01	'22 02	'22 03
CLEARING	X	X										
EXCAVATION												
GRADING	X	X	X	X	X							
CONSTRUCTION	X	X	X	X	X	X	X	X				
<b>SEDIMENT CONTROLS:</b>												
Silt Fencing	X	X	X	X	X	X	X	X				
Sediment Traps	X	X	X	X	X	X	X	X				
Sediment Basins												
Storm Inlet Protection												
Drainage Swales												
Check Dams												
Contour Furrows												
Terracing												
Pipe Slope Drains												
Rock Outlet Protection												
Gravel Construction Entrance	X	X	X	X	X	X	X	X				
Grass-lined Channel (Turf Reinforcement Mats)												
Protection of trees with construction fences												
Temporary Seeding and Planting												
Permanent Seeding and Planting												
Other:												

CONTROL MEASURE	PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5
Silt Fencing	X	X	X	X	
Construction Entrance	X	X			
Sediment Traps			X	X	
Storm Inlet Protection			X	X	
Concrete Washout					
Rock Outlet Protection			X	X	X
Permanent Seeding and Planting					X

Phase 1: Prior to Ground Disturbance  
Phase 2: After Completion of Rough Grading  
Phase 3: After Installation of Storm Facilities  
Phase 4: After Paving & Construction  
Phase 5: After Project Completion and Cleanup

**BMP Rationale**  
A comprehensive list of available Best Management Practices (BMP) options based on DEQ's 1200-C Permit Application and ESCP Guidance Document has been reviewed to complete this Erosion and Sediment Control Plan. Some of the above listed BMPs 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 ESCP, an Action Plan will be submitted.

SOIL TYPE(S): PER \_\_\_\_ CO. SOIL SURVEY THE SITE SOILS INCLUDE.  
EROSION HAZARD: PER \_\_\_\_ CO. SOIL SURVEY EROSION HAZARD RANGES FROM "\_\_\_" TO "\_\_\_".  
SITE AREA: x Ac  
DISTURBANCE AREA: y Ac

INSPECTION FREQUENCY FOR BMP

Site Condition	Minimum Frequency
1. Active period	On initial date that land disturbance activities commence.  Within 24 hours of any storm event, including runoff from snow melt, that results in discharge from the site.  At least once every 14 days, regardless of whether stormwater runoff is occurring.
2. Inactive periods greater than fourteen (14) consecutive calendar days	The Inspector may reduce the frequency of inspections in any area of the site where the stabilization steps in Section 2.2.20 have been completed to twice per month for the first month, no less than 14 calendar days apart, then once per month.
3. Periods during which the site is inaccessible due to inclement weather	If safe, accessible and practical, inspections must occur daily at a relevant discharge point or downstream location of the receiving waterbody.
4. Periods during which construction activities are suspended and runoff is unlikely due to frozen conditions.	Visual monitoring inspections may be temporarily suspended. Immediately resume monitoring upon thawing, or when weather conditions make discharges likely.
5. Periods during which construction activities are conducted and runoff is unlikely during frozen conditions.	Visual monitoring inspections may be reduced to once a month. Immediately resume monitoring upon thawing, or when weather conditions make discharges likely.

Spill Prevention Procedures and Response

- Spill prevention is an important factor in the successful operation of a storm water injection management system. All contractor employees will be trained on this plan so that they are certain of the location of materials, who to notify in case of a spill, and how to initially contain the spill of hazardous materials. Contractor employees shall never dispose waste materials into the storm water collection/treatment system. Contractor employees will be observant of other potential contamination occurrences. All contractor employees will review this plan especially with regards to the detailed spill response steps.
- This data will be posted in an accessible area at the site.

What to do in case of a spill

1. Spill kit to be located near the job trailer or another conspicuous location and clearly marked.
2. Get the spill kit.
  - a. If possible, determine visually what types of fluids have been spilled.
  - b. Put on gloves and glasses or any other necessary Personal Protective Equipment (PPE).
  - c. Get the absorbent material provided in the kit and the drain block cover.
  - d. Place the absorbent materials in the path of the spill.
  - e. Remove any debris from the vicinity of the inlet where the spill is draining.
  - f. Unroll the drain block cover and place it snugly over the inlet.
  - g. Verify that the cover has full contact with the rim of the inlet.
  - h. Use snakes, pillow or pigs to completely contain the area.
3. Notify the following personnel immediately:
  - a. 1200-C Permit Registrant's Representative
  - b. When a spill includes any of the below, notify the Oregon Emergency Response System as soon as the Owner's Representative has knowledge of the release. Oregon Emergency Response System Phone: 1-800-452-0311
    - i. Any amount of oil to waters of the state;
    - ii. Oil spills on land in excess of 42 gallons;
    - iii. Hazardous materials that are equal to, or greater than, the quantity listed in the Code of Federal Regulations, 40 CFR Part 302 (List of Hazardous Substances and Reportable Quantities), and amendments adopted before July 1, 2002

NOTE: Only dry cleanup methods will be employed to clean up spills (i.e., no use of water to wash spilled materials from pavement will be conducted). All spill cleanups shall be conducted in accordance with applicable regulations.

Responsible Personnel

In case of spill contact the General Contractor and 1200-C Permit Registrant's Representative immediately. The Permit Registrant's Representative will be responsible for either managing the spill clean up for minor spills or contacting/retaining a company for the cleanup of major spills.

Waste Management Procedures

Activities performed onsite shall implement the following to eliminate the discharge of waste:

1. Locate activities that include waste products away from waters of the state and stormwater inlets or conveyances so that stormwater coming into contact with these activities cannot reach waters of the state;
2. Ensure adequate supplies are available at all times to handle spills, leaks, and disposal of liquids, and provide secondary containment (e.g. spill berms, decks, spill containment pallets);
3. Have a spill kit available on site and ensure personnel are available to respond expeditiously in the event of a leak or spill;
4. Clean up spills or contaminated surfaces immediately using dry clean up measures (do not clean contaminated surfaces by hosing the area down), and eliminate the source of the spill to prevent a discharge or a continuation of an ongoing discharge; and
5. Store materials in a covered area (e.g., plastic sheeting, temporary roofs), or in secondary containment to prevent the exposure of these containers to precipitation or stormwater runoff, or a similarly effective means designed to prevent the discharge of pollutants from these areas.
6. Building Materials & Building Products: Minimize material exposure in cases where the exposure to precipitation or to stormwater will result in a discharge of pollutants (e.g. elevate materials from soil to prevent leaching of pollutants).

Fertilizers, pesticides, herbicides, & insecticides

Comply with all application and disposal requirements included on the registered pesticide, herbicide, insecticide, and fertilizer label. When applying fertilizers, registrants must:

1. Apply at a rate and in amounts consistent with manufacturer's specifications;
2. Apply at the appropriate time of year for the location, and preferably timed to coincide as closely as possible to the period of maximum vegetation uptake and growth;
3. Avoid applying before heavy rains that could cause excess nutrients to be discharged;
4. Never apply to frozen ground;
5. Never apply to stormwater conveyance channels; and
6. Follow all other federal, state, and local requirements regarding fertilizer application.

Authorized non-stormwater discharges anticipated for the proposed project:

1. Landscape irrigation
2. Dust control water
3. Water line flushing (potable)

Potential pollutant-generating activities anticipated for the proposed project including an inventory of pollutants for each activity.

1. Mass Grading, Street & Utility Construction
  - a. Sediment
  - b. Vehicle and machinery related pollutants (Fuels, hydraulic fluid, oils)
2. Vertical Construction
  - a. Paints, caulks, sealants, solvents
  - b. Fluorescent light ballasts
  - c. Sediment
  - d. Vehicle and machinery related pollutants (Fuels, hydraulic fluid, oils)
3. Landscaping & Irrigation
  - a. Fertilizers
  - b. Pesticides, Herbicides, Insecticides

EROSION CONTROL INSPECTION RESPONSIBILITIES:

1. PRIOR TO CONTRACT AWARD, INSPECTOR TO BE DANIEL THOMPSON AT WESTTECH ENGINEERING, INC. (503-585-2474), EXPIRES MAY 24, 2023.
2. AFTER CONTRACT AWARD AND PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL ACQUIRE THE SERVICES OF A CERTIFIED EROSION CONTROL INSPECTOR MEETING DEQ REQUIREMENTS UNDER THE 1200-C PERMIT AND NOTIFY DEQ OF THE CERTIFIED EROSION CONTROL INSPECTOR.

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DRN. RS  
CKD. SW

DATE: 04/20/2023

REVIEW

REGISTERED PROFESSIONAL ENGINEER  
WESTTECH ENGINEERING, INC.  
CONSULTING ENGINEERS AND PLANNERS  
STEVEN H. WENGER  
16.05.00000000

REVISIONS: 6/20/2024

WESTTECH ENGINEERING, INC.  
CONSULTING ENGINEERS AND PLANNERS

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E-mail: westtech@westtech-eng.com

TIM WENGER

RIDGEVIEW SUBDIVISION - PHASES III - V

EROSION PREVENTION & SEDIMENT CONTROL (EPSC) - NOTES

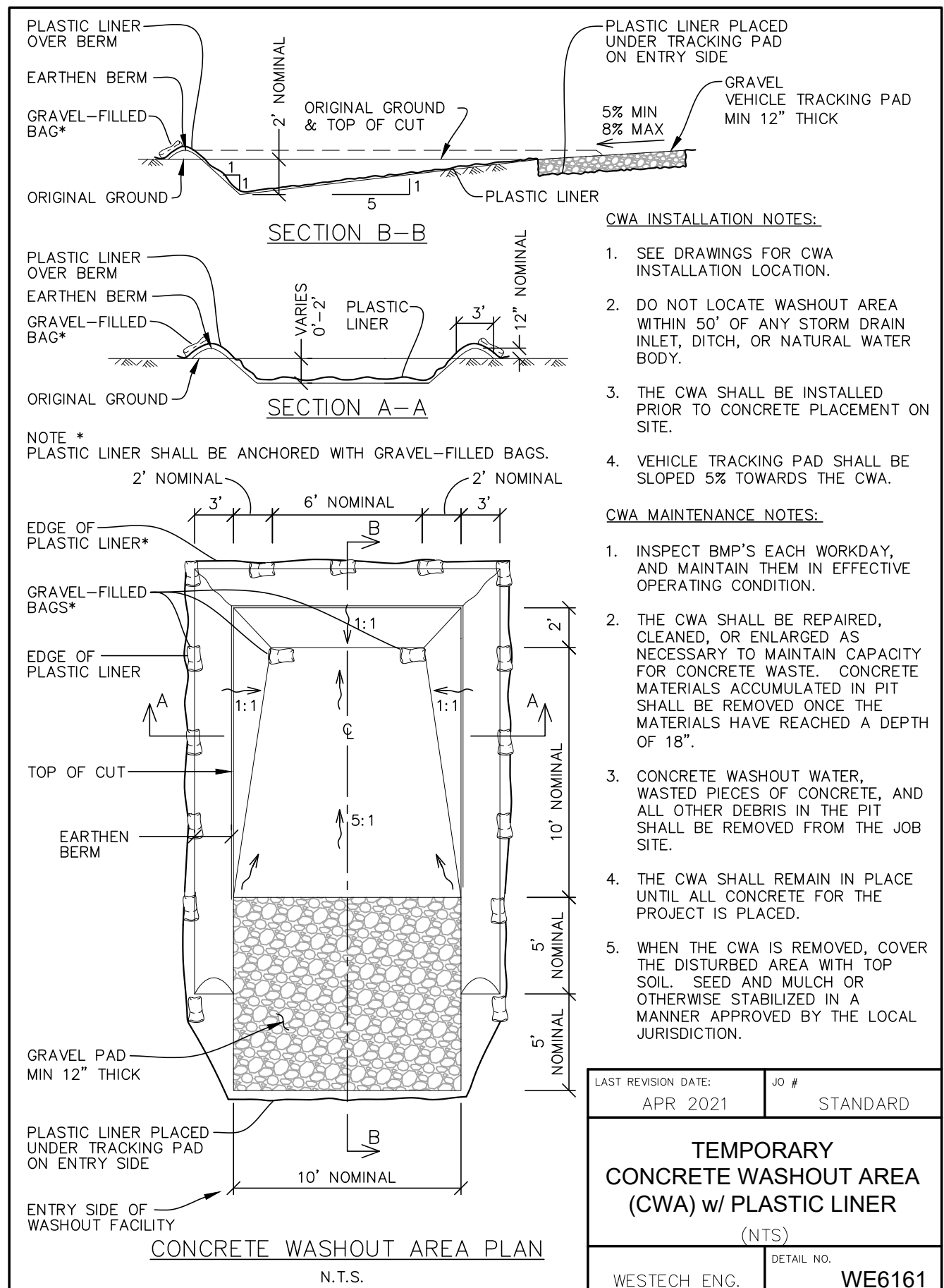
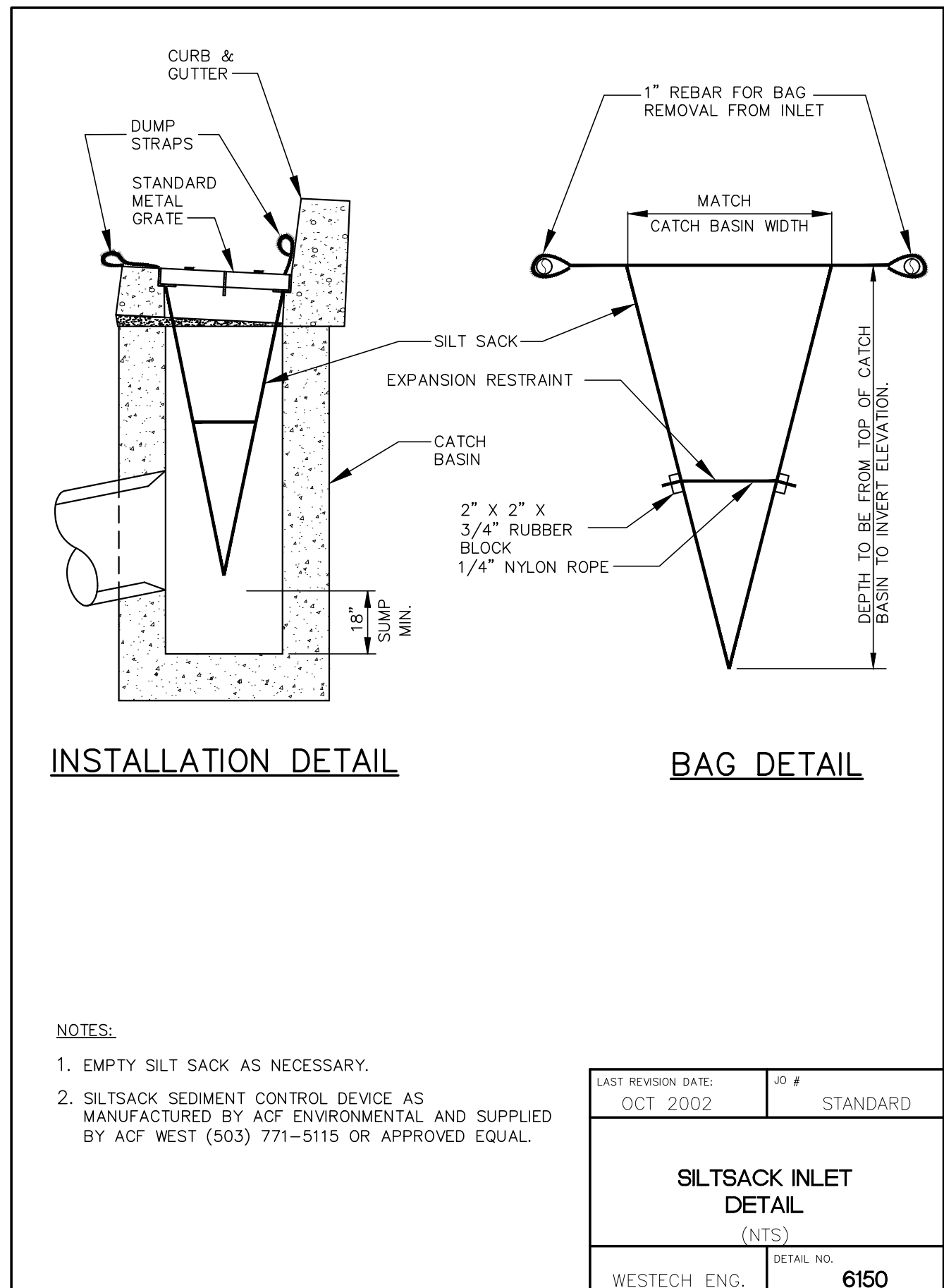
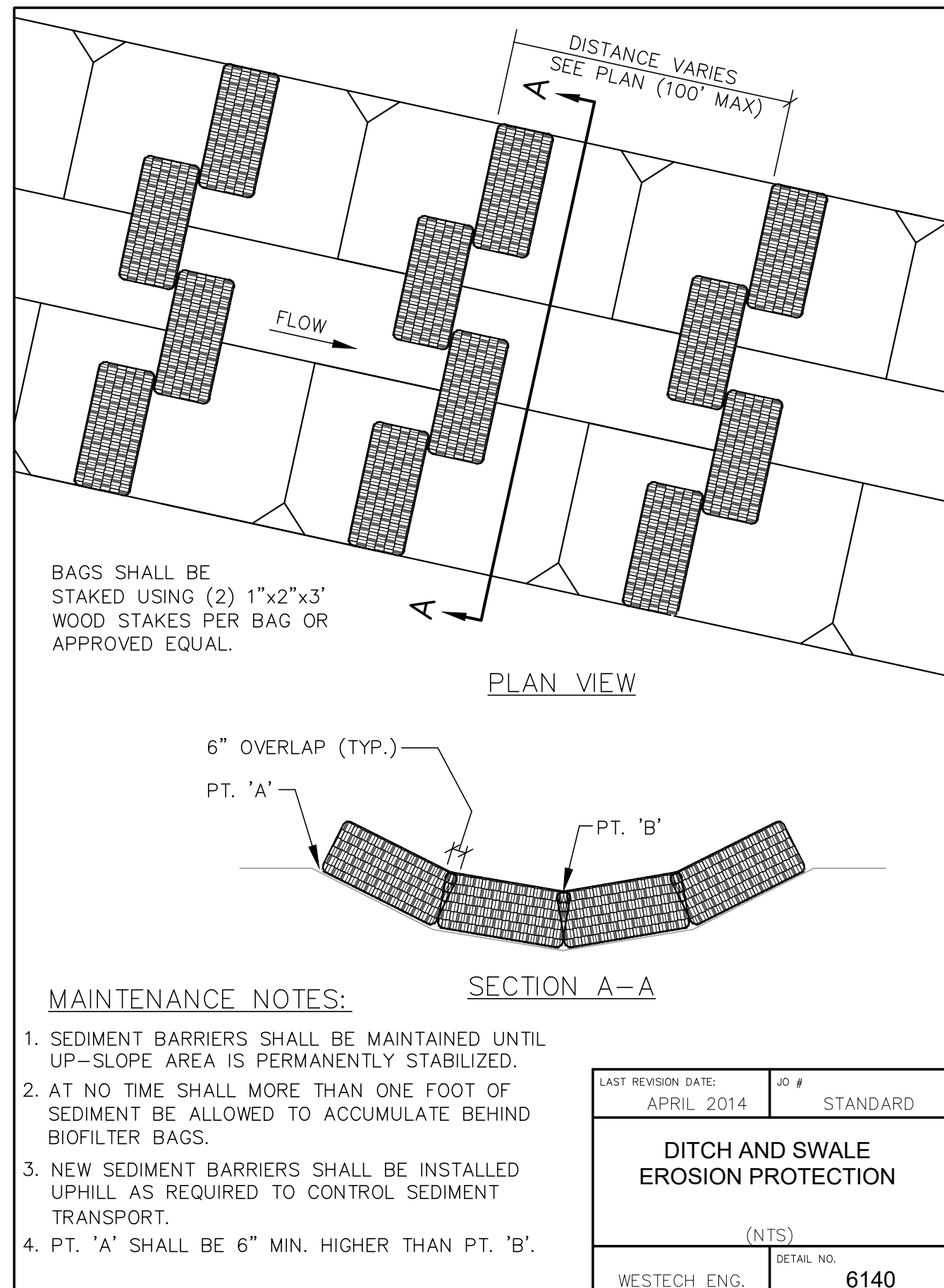
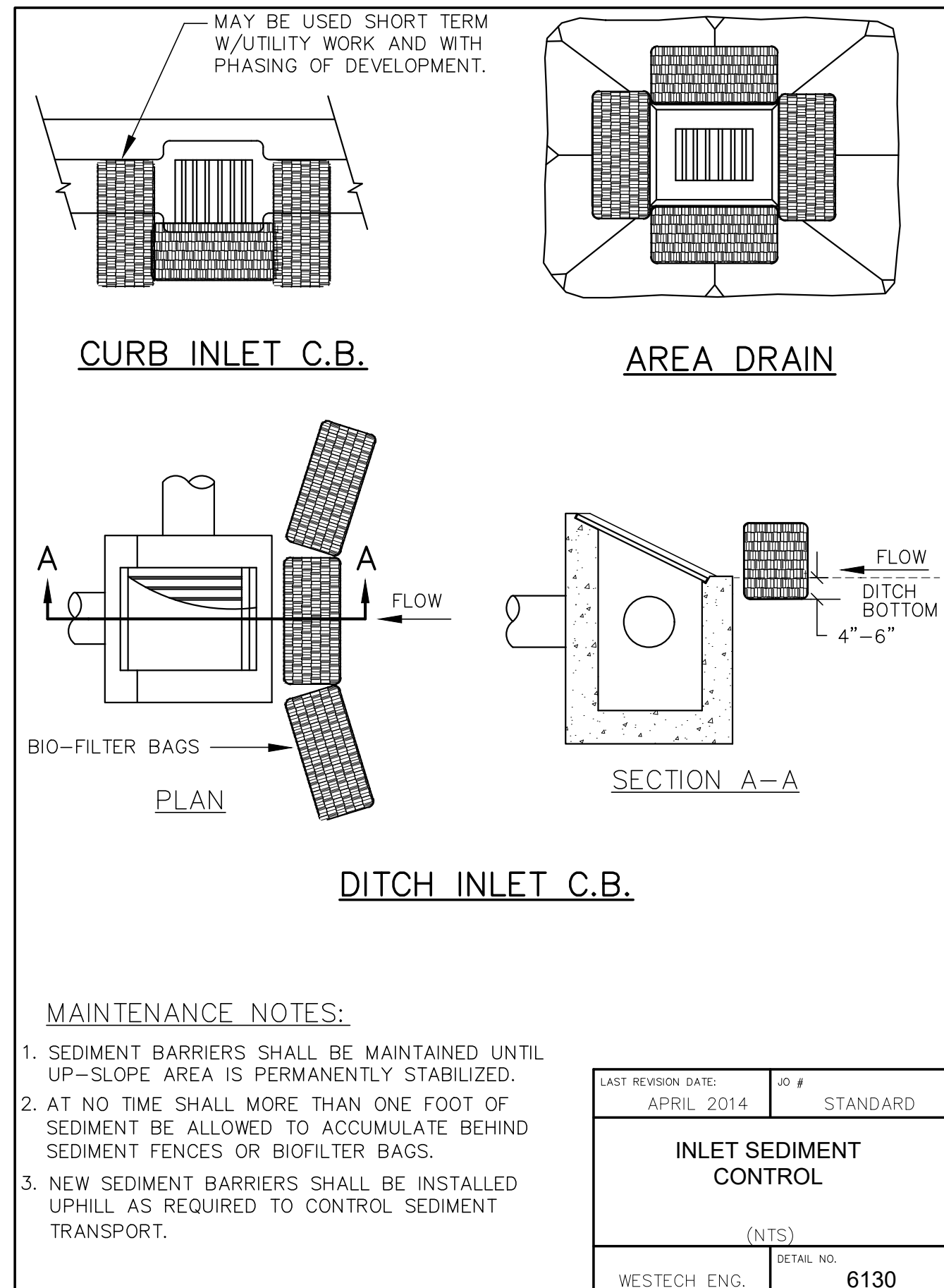
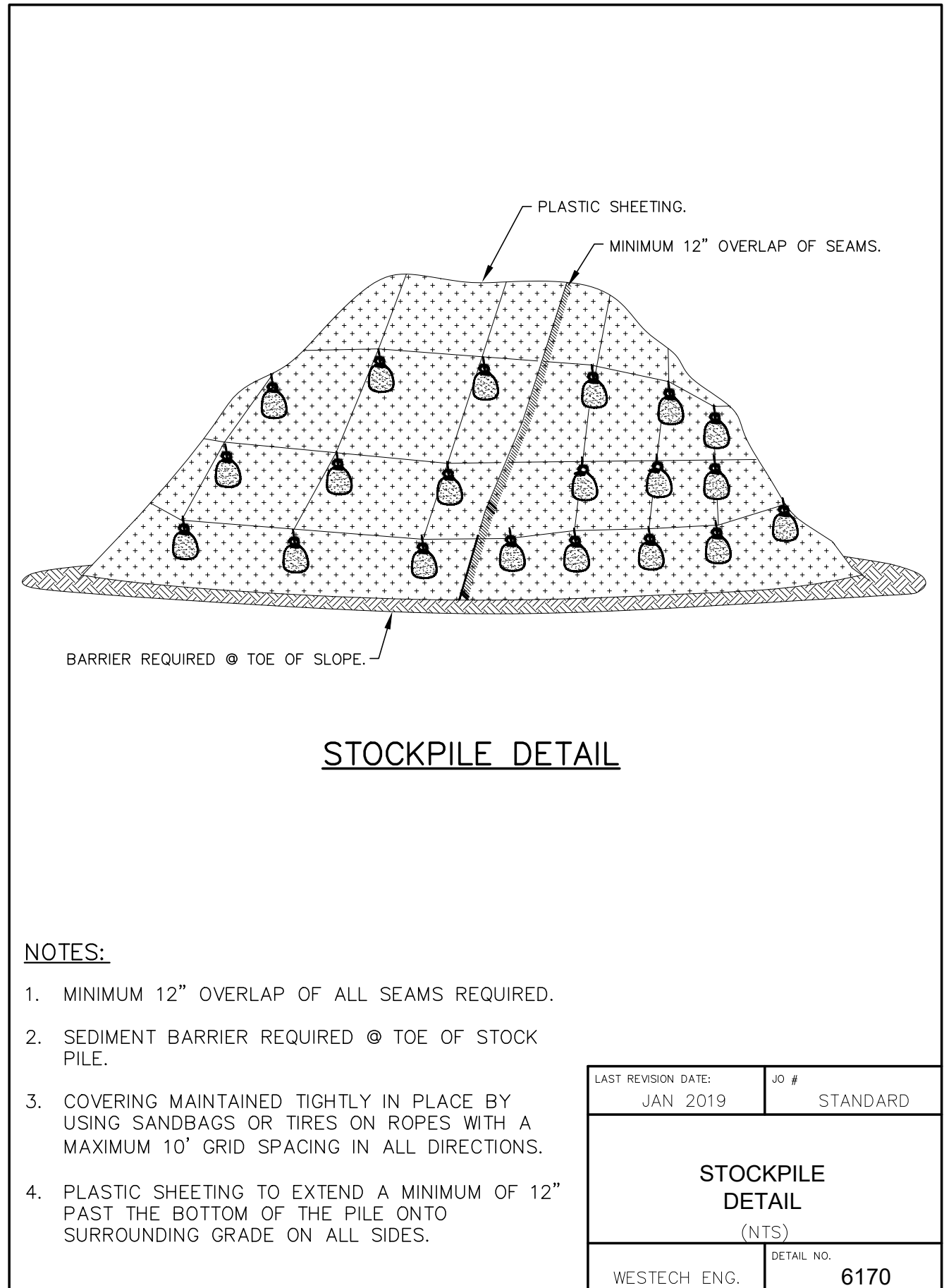
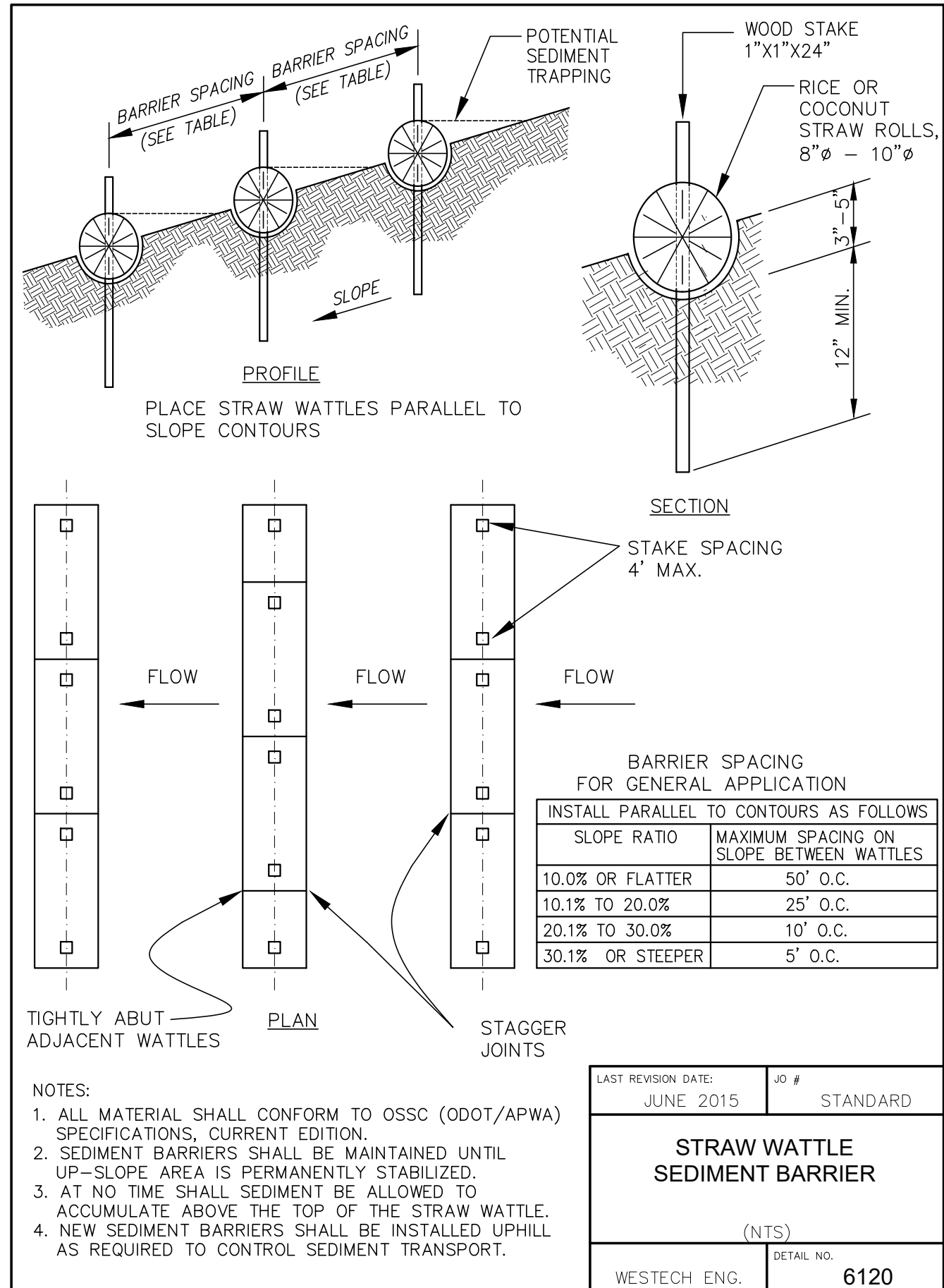
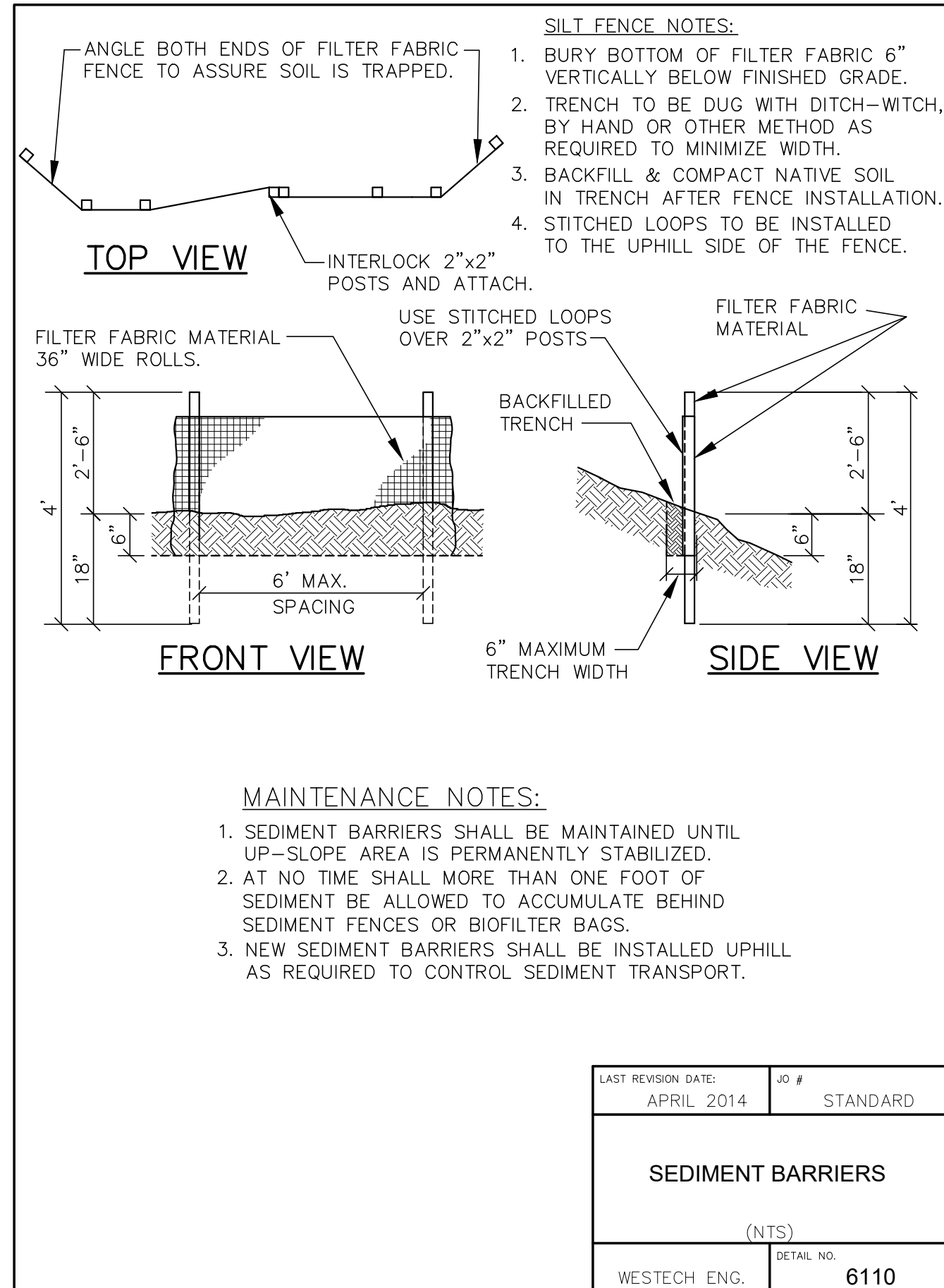
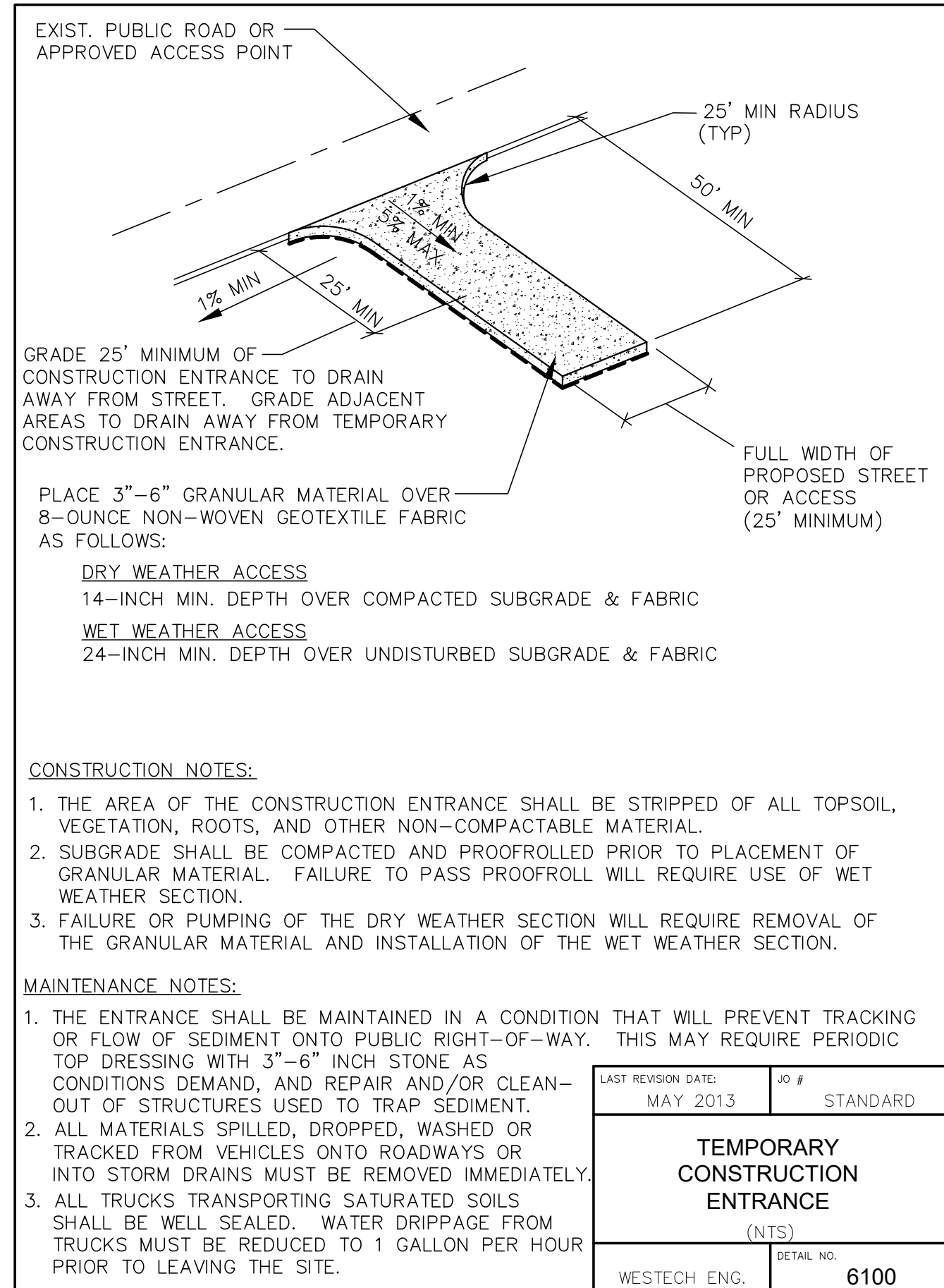
DRAWING EC-1

JOB NUMBER 3154.2000









9/7/2023, 1:06:06 PM R:\pwwestech\William Highlands\Ridgeview Subdivision Ph. II\Civil\Plots\PD-EC Notes & Details - (EC-3 tab)

VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON SCALES ACCURACLY	1"	NO. 1	DATE	DESCRIPTION	BY
DSN.	SW	NO.	DATE	DESCRIPTION	BY
DRN.	#	1			
CKD.	SW				
DATE: 04/2023					

**REVIEW**

STEVEN L. WESTECH

REGISTERED PROFESSIONAL ENGINEER

STATE OF OREGON

NO. 16,000

REVISIONS: 6/20/2024

**WESTECH ENGINEERING, INC.**

CONSULTING ENGINEERS AND PLANNERS

3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302

Phone: (503) 585-2474 Fax: (503) 585-3966

E-mail: westech@westech-eng.com

TIM WENGER

RIDGEVIEW SUBDIVISION - PHASES III - VI

EPSC - DETAILS

DRAWING EC-3

JOB NUMBER 3154.2000

9/7/2023, 1:06:17 PM  
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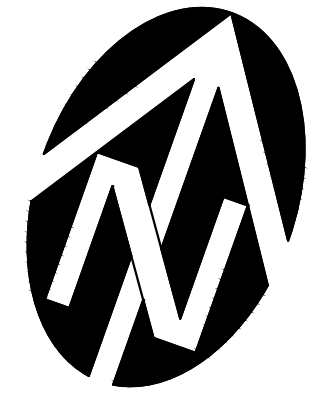
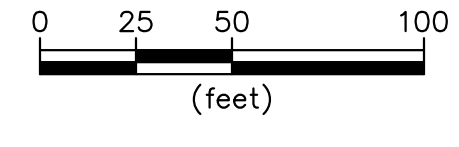


**DEMOLITION CALLOUT KEY**

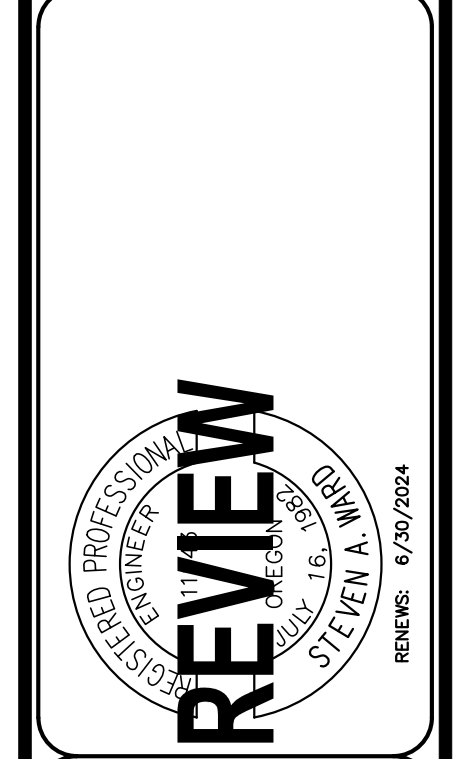
(A)	ADJUST TO NEW FG SHOWN ON PLANS
(P)	CONTRACTOR TO SAVE & PROTECT AT ALL TIMES
(R)	CONTRACTOR TO REMOVE & DISPOSE OFF-SITE
(R1)	CONTRACTOR TO RELOCATE
(S)	SAWCUT

**EROSION CONTROL LEGEND**

	SILT FENCE
	SILT SACK INLET PROTECTION - USE FOR STANDARD CATCH BASINS
	BIO BAG INLET PROTECTION - USE AT OUTFALLS, INLET CATCH BASINS, & CURB BREAKS



VERIFY SCALE	DATE: 04/2022
BAR IS ONE INCH ON ORIGINAL DRAWING	
IF NOT ONE INCH ON SCALES ACCURACELY	
0 1"	
DSN. SW	NO. 1
DRN. RS	DATE
CKD. SW	DESCRIPTION
	REVISIONS
	BY



**WESTTECH ENGINEERING, INC.**  
 CONSULTING ENGINEERS AND PLANNERS

**WE**

3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302  
 Phone: (503) 585-2474 Fax: (503) 585-3966  
 E-mail: westtech@westtech-eng.com

TIM WENGER

RIDGEVIEW SUBDIVISION - PHASES III - VI

EPSC - DEMOLITION & CLEARING PLAN (NORTH)

DRAWING EC-4

JOB NUMBER 3154.2000



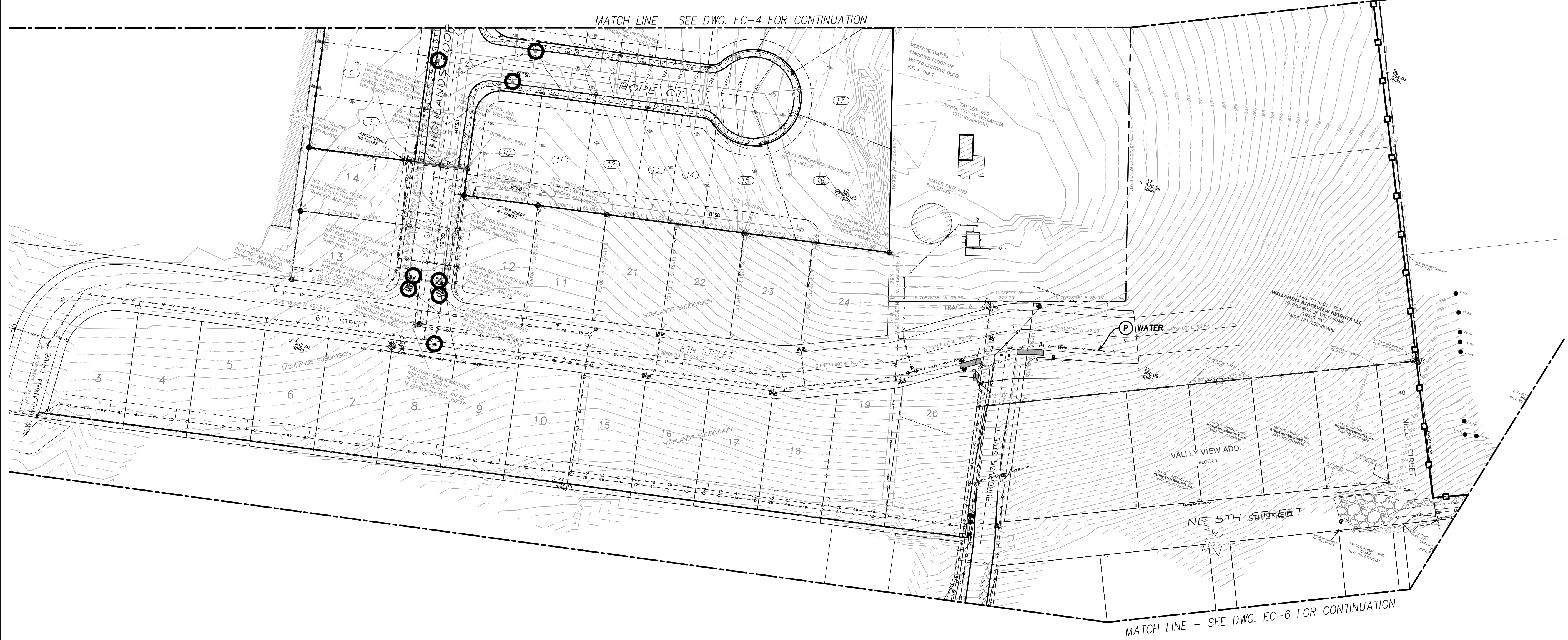
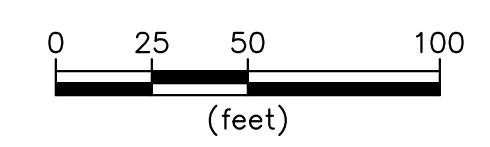
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**DEMOLITION CALLOUT KEY**

(A)	ADJUST TO NEW FG SHOWN ON PLANS
(P)	CONTRACTOR TO SAVE & PROTECT AT ALL TIMES
(R)	CONTRACTOR TO REMOVE & DISPOSE OFF-SITE
(R1)	CONTRACTOR TO RELOCATE
(S)	SAWCUT

**EROSION CONTROL LEGEND**

	SILT FENCE
	SILT SACK INLET PROTECTION - USE FOR STANDARD CATCH BASINS
	BIO BAG INLET PROTECTION - USE AT OUTFALLS, INLET CATCH BASINS, & CURB BREAKS



NO.	DATE	DESCRIPTION	BY
1	04/2022		

VERIFY SCALE  
 BAR IS ONE INCH ON ORIGINAL DRAWING  
 IF NOT ONE INCH ON SCALES ACCURACLY

DATE: 04/2022

DSN. SW  
 DRN. RS  
 CKD. SW

DATE: 6/20/2024

**REVIEW**

REGISTERED PROFESSIONAL ENGINEER  
 STEVEN V. GIBBY  
 CIVIL ENGINEER  
 LICENSE NO. 1616

**WE**

WESTTECH ENGINEERING, INC.  
 CONSULTING ENGINEERS AND PLANNERS

3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302  
 Phone: (503) 585-2474 Fax: (503) 585-3986  
 E-mail: westtech@westtech-eng.com

TIM WENGER

RIDGEVIEW SUBDIVISION - PHASES III - VI

EPSC - DEMOLITION & CLEARING PLAN (CENTRAL)

DRAWING  
 EC-5

JOB NUMBER  
 3154.2000

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**DEMOLITION CALLOUT KEY**

(A)	ADJUST TO NEW FG SHOWN ON PLANS
(P)	CONTRACTOR TO SAVE & PROTECT AT ALL TIMES
(R)	CONTRACTOR TO REMOVE & DISPOSE OFF-SITE
(RI)	CONTRACTOR TO RELOCATE
(S)	SAWCUT

**EROSION CONTROL LEGEND**

	SILT FENCE
	SILT SACK INLET PROTECTION - USE FOR STANDARD CATCH BASINS
	BIO BAG INLET PROTECTION - USE AT OUTFALLS, INLET CATCH BASINS, & CURB BREAKS

TIM WENGER  
 RIDGEVIEW SUBDIVISION - PHASES III - VI  
 EPSC - DEMOLITION &  
 CLEARING PLAN (SOUTH)

DRAWING  
 EC-6

JOB NUMBER  
 3154.2000

**WE**  
 WESTTECH ENGINEERING, INC.  
 CONSULTING ENGINEERS AND PLANNERS  
 3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302  
 Phone: (503) 585-2474 Fax: (503) 585-3966  
 E-mail: westtech@westtech-eng.com



VERIFY SCALE  
 BAR IS ONE INCH ON ORIGINAL DRAWING  
 IF NOT ONE INCH ON SCALES ACCURACLY

DSN.	SW
DRN.	RS
CKD.	SW

DATE: 04/2022

NO.	DATE	DESCRIPTION	BY
1			

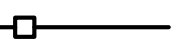

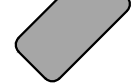


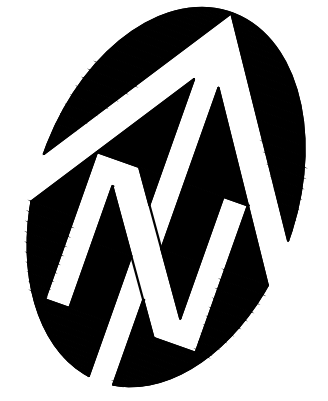
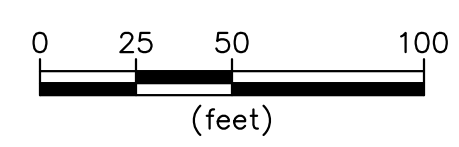
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JOYFUL STREET



**EROSION CONTROL LEGEND**

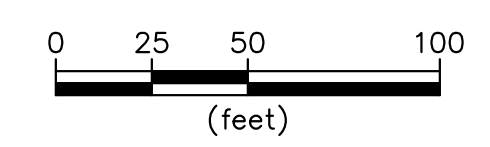
-  SILT FENCE
-  SILT SACK INLET PROTECTION – USE FOR STANDARD CATCH BASINS
-  BIO BAG INLET PROTECTION – USE AT OUTFALLS, INLET CATCH BASINS, & CURB BREAKS



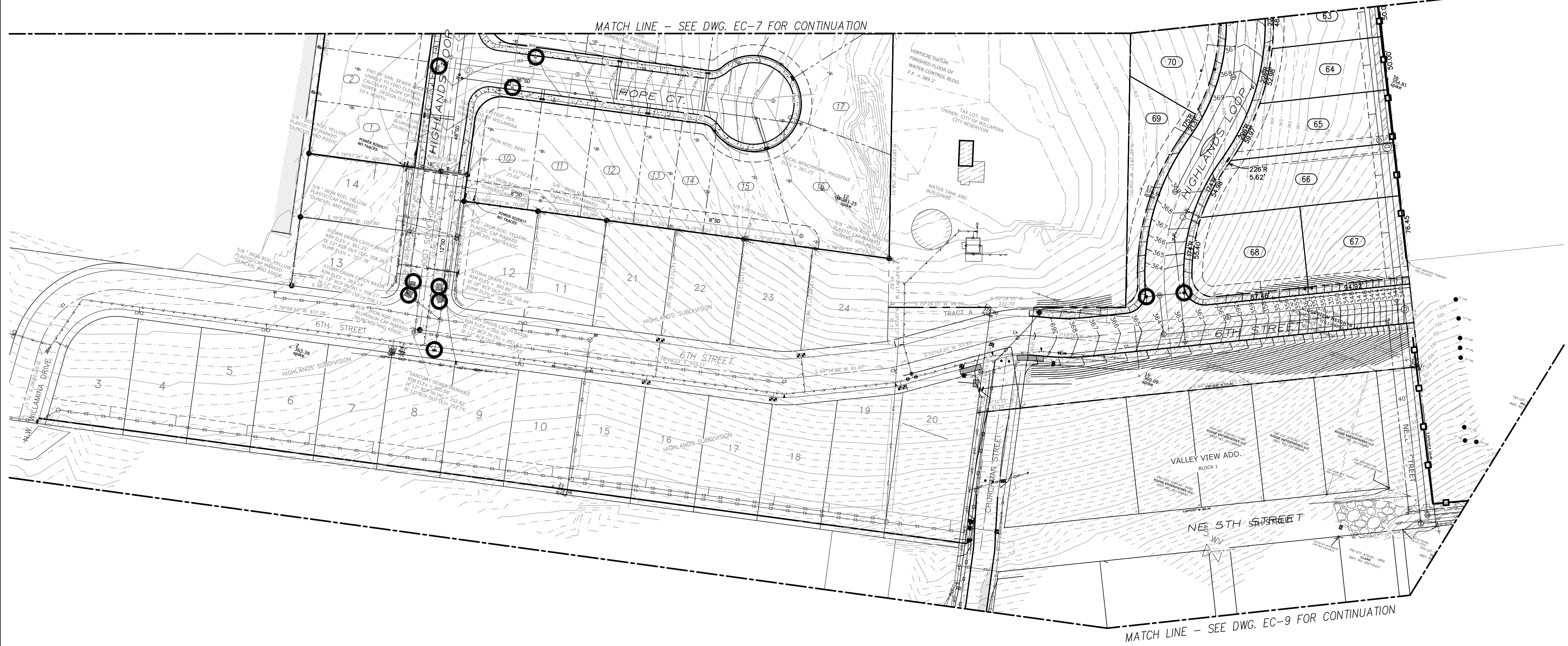
<p>VERIFY SCALE          THIS IS ONE INCH ON ORIGINAL DRAWING          IF NOT ONE INCH ON SCALES ACCORDINGLY</p>	<p>DSN. SW          DRN. RS          CKD. SW          DATE: 04/2022</p>	<p>NO. 1          DATE          DESCRIPTION          REVISIONS</p>	<p>REGISTERED PROFESSIONAL ENGINEER  <b>REVIEW</b>          STEVEN H. STEVENSON          CIVIL ENGINEER          LICENSE NO. 16          REVIEWS: 6/20/2024</p>	<p><b>WE</b>  <b>WESTTECH ENGINEERING, INC.</b>          CONSULTING ENGINEERS AND PLANNERS          3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302          Phone: (503) 585-2474 Fax: (503) 585-3966          E-mail: westtech@westtech-eng.com</p>	<p>TIM WENGER          RIDGEVIEW SUBDIVISION – PHASES III – VI  <b>EPSC – STREETS &amp; UTILITIES</b>  <b>PLAN (NORTH)</b></p>	<p>DRAWING  <b>EC-7</b></p>	<p>JOB NUMBER  <b>3154.2000</b></p>
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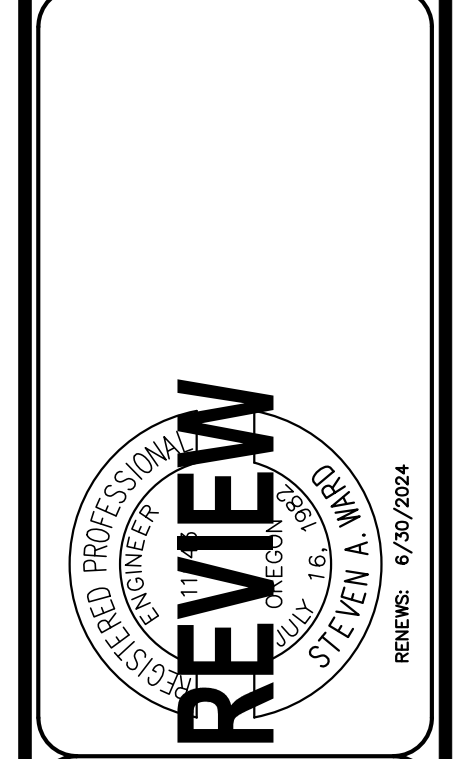
EROSION CONTROL LEGEND	
	SILT FENCE
	SILT SACK INLET PROTECTION - USE FOR STANDARD CATCH BASINS
	BIO BAG INLET PROTECTION - USE AT OUTFALLS, INLET CATCH BASINS, & CURB BREAKS



NO.	DATE	DESCRIPTION	BY
1	04/2022		

VERIFY SCALE  
 BAR IS ONE INCH ON ORIGINAL DRAWING  
 IF NOT ONE INCH ON SCALES ACCURACLY

DSN. SW  
 DRN. RS  
 CKD. SW  
 DATE: 04/2022



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 CONSULTING ENGINEERS AND PLANNERS

3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302  
 Phone: (503) 565-2474 Fax: (503) 565-3966  
 E-mail: westtech@westtech-eng.com

TIM WENGER  
 RIDGEVIEW SUBDIVISION - PHASES III - VI  
 EPSC - STREETS & UTILITIES  
 PLAN (CENTRAL)

DRAWING  
**EC-8**  
 JOB NUMBER  
 3154.2000



**EROSION CONTROL LEGEND**

	SILTY FENCE
	SILTY SACK INLET PROTECTION - USE FOR STANDARD CATCH BASINS
	BIO BAG INLET PROTECTION - USE AT OUTFALLS, INLET CATCH BASINS, & CURB BREAKS

TIM WENGER  
 RIDGEVIEW SUBDIVISION - PHASES III - VI  
 EPSC - STREETS & UTILITIES  
 PLAN (SOUTH)

**WE**  
**WESTTECH ENGINEERING, INC.**  
 CONSULTING ENGINEERS AND PLANNERS  
 3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302  
 Phone: (503) 585-2474 Fax: (503) 585-3966  
 E-mail: westtech@westtech-eng.com



VERIFY SCALE  
 BAR IS ONE INCH ON ORIGINAL DRAWING  
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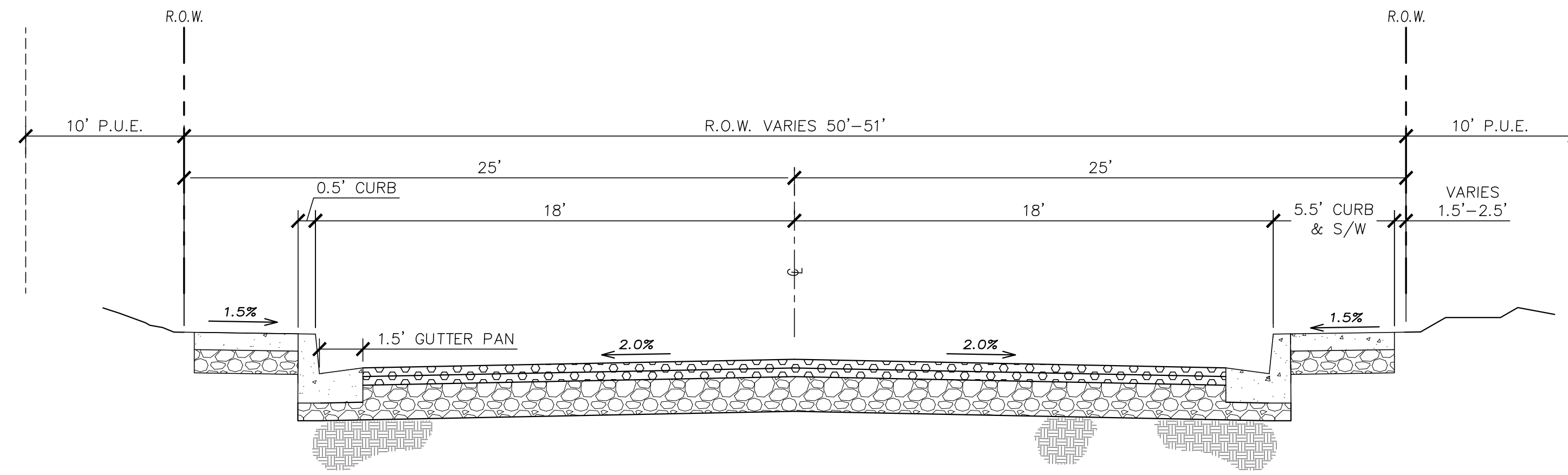
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DSN. SW  
 DRN. RS  
 CKD. SW  
 DATE: 04/2022

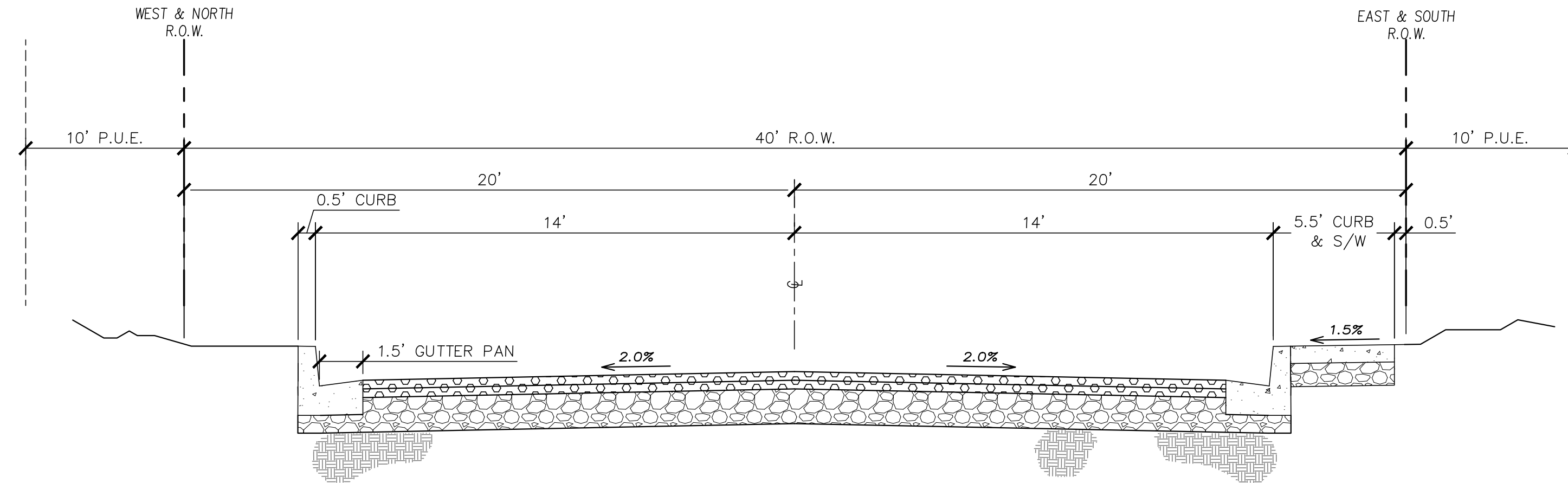
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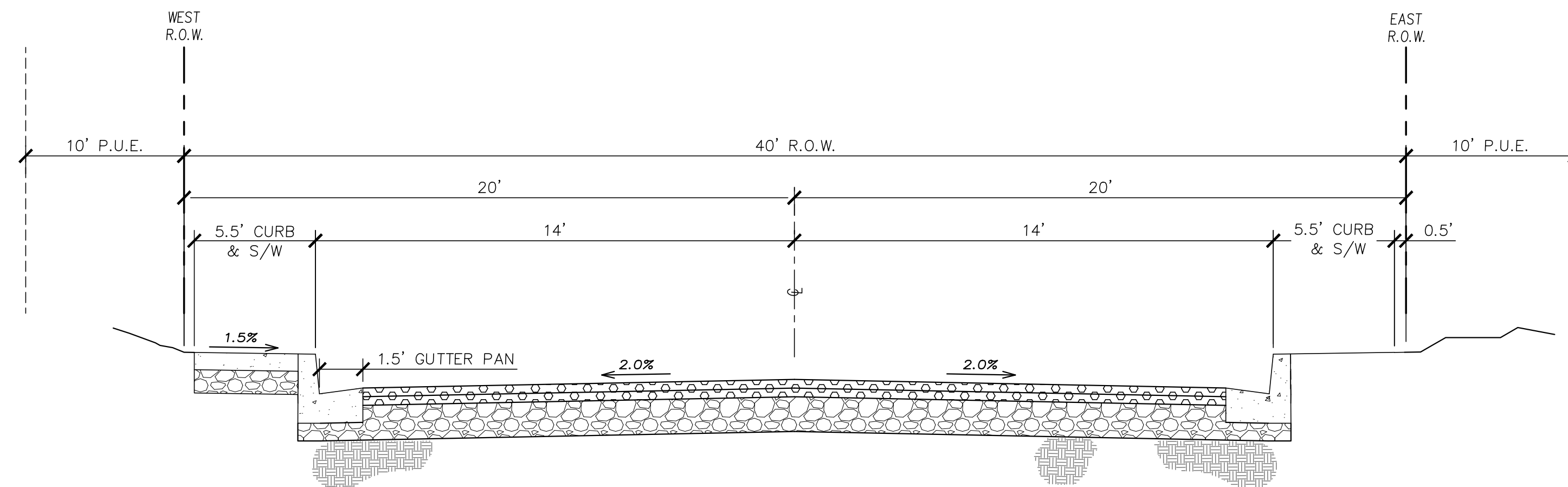
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HIGHLANDS LOOP, 6TH STREET, & KINDNESS COURT – TYPICAL SECTION  
 N.T.S.



KINDNESS STREET – TYPICAL SECTION  
 N.T.S.



JOYFUL STREET – TYPICAL SECTION  
 N.T.S.

NO.	DATE	DESCRIPTION	BY
1	04/2023		

VERIFY SCALE  
 BASIS ONE INCH ON ORIGINAL DRAWING  
 IF NOT ONE INCH ON SCALES ACCORDINGLY

DSN. SW  
 DRN. RS  
 CKD. SW  
 DATE: 04/2023



**WESTTECH ENGINEERING, INC.**  
 CONSULTING ENGINEERS AND PLANNERS

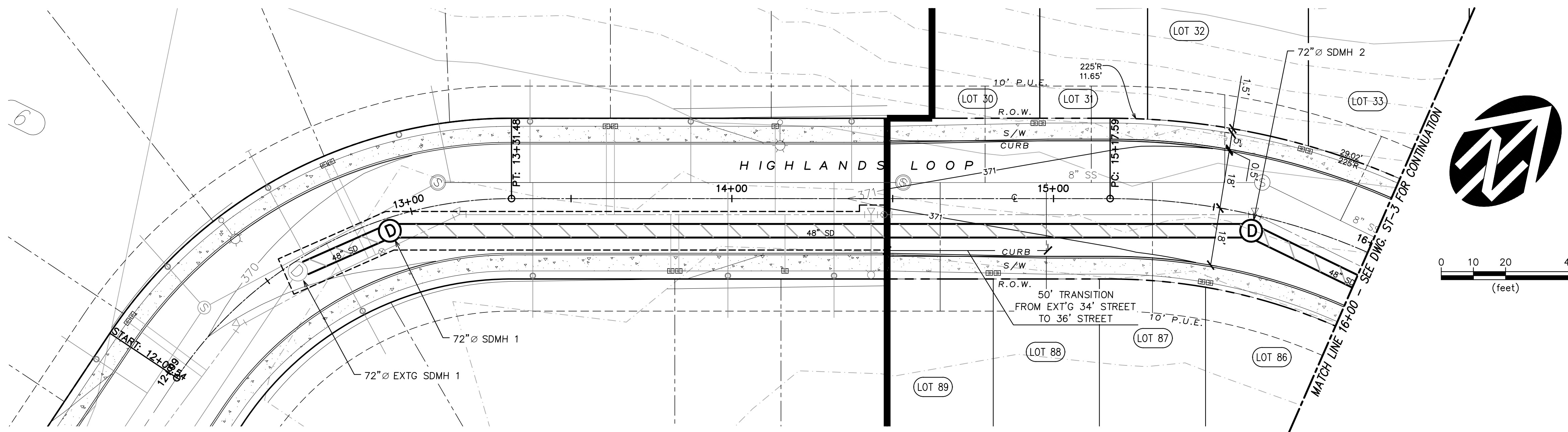
**WE**

3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302  
 Phone: (503) 585-2474 Fax: (503) 585-3966  
 E-mail: westtech@westtech-eng.com

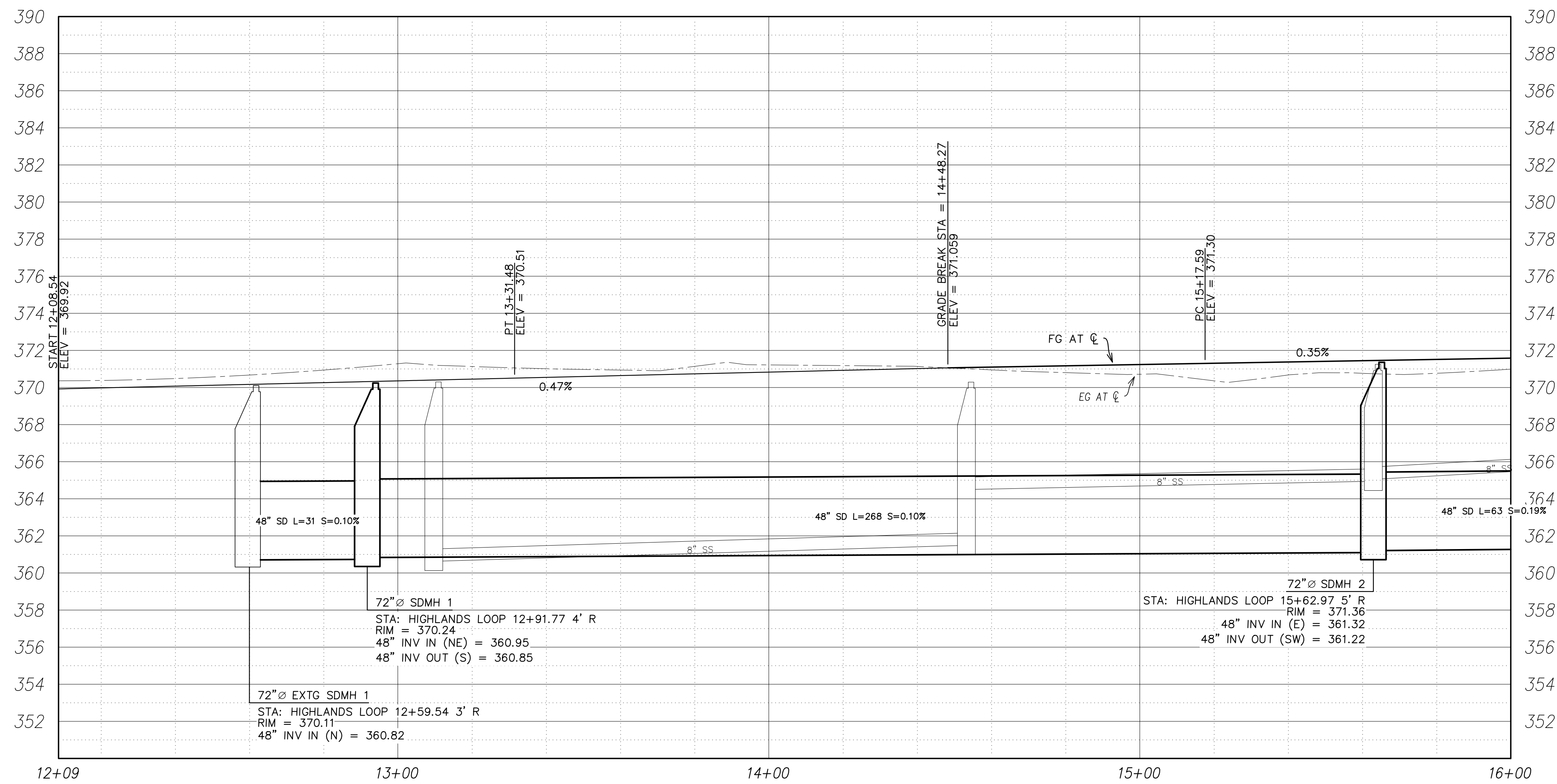
TIM WENGER  
 RIDGEVIEW SUBDIVISION – PHASES III – VI  
 TYPICAL STREET SECTIONS

DRAWING  
 ST-1  
 JOB NUMBER  
 3154.2000





PLAN 12+08 - 16+00  
1" = 30'



PROFILE 12+08 - 16+00  
H: 1" = 20' V: 1" = 4'

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<p>VERIFY SCALE BASE IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON SCALES ACCURACELY</p> <p>DSN. SW DRN. RS CKD. SW DATE: 04/2023</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 5%;">NO.</th> <th style="width: 5%;">DATE</th> <th style="width: 40%;">DESCRIPTION</th> <th style="width: 50%;">BY</th> </tr> <tr> <td>1</td> <td></td> <td></td> <td></td> </tr> </table>	NO.	DATE	DESCRIPTION	BY	1			
NO.	DATE	DESCRIPTION	BY						
1									

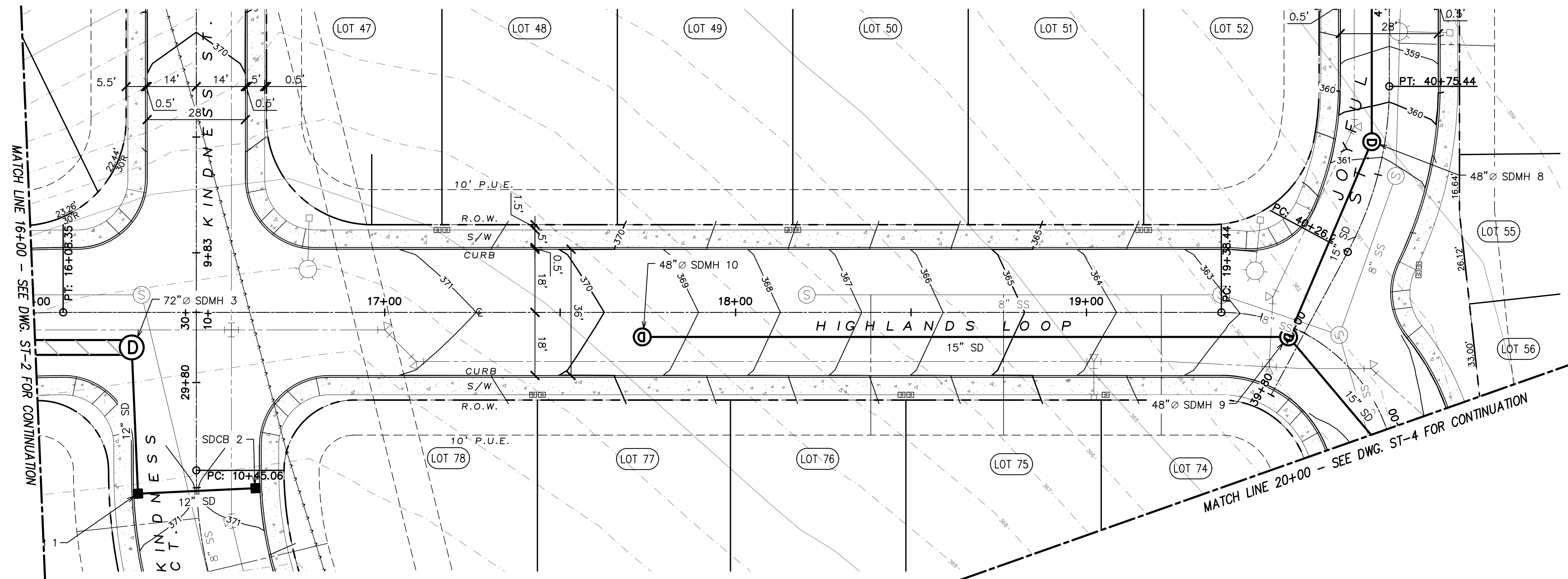
**WESTECH ENGINEERING, INC.**  
CONSULTING ENGINEERS AND PLANNERS

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Phone: (503) 585-2474 Fax: (503) 585-3966  
E-mail: westech@westech-eng.com

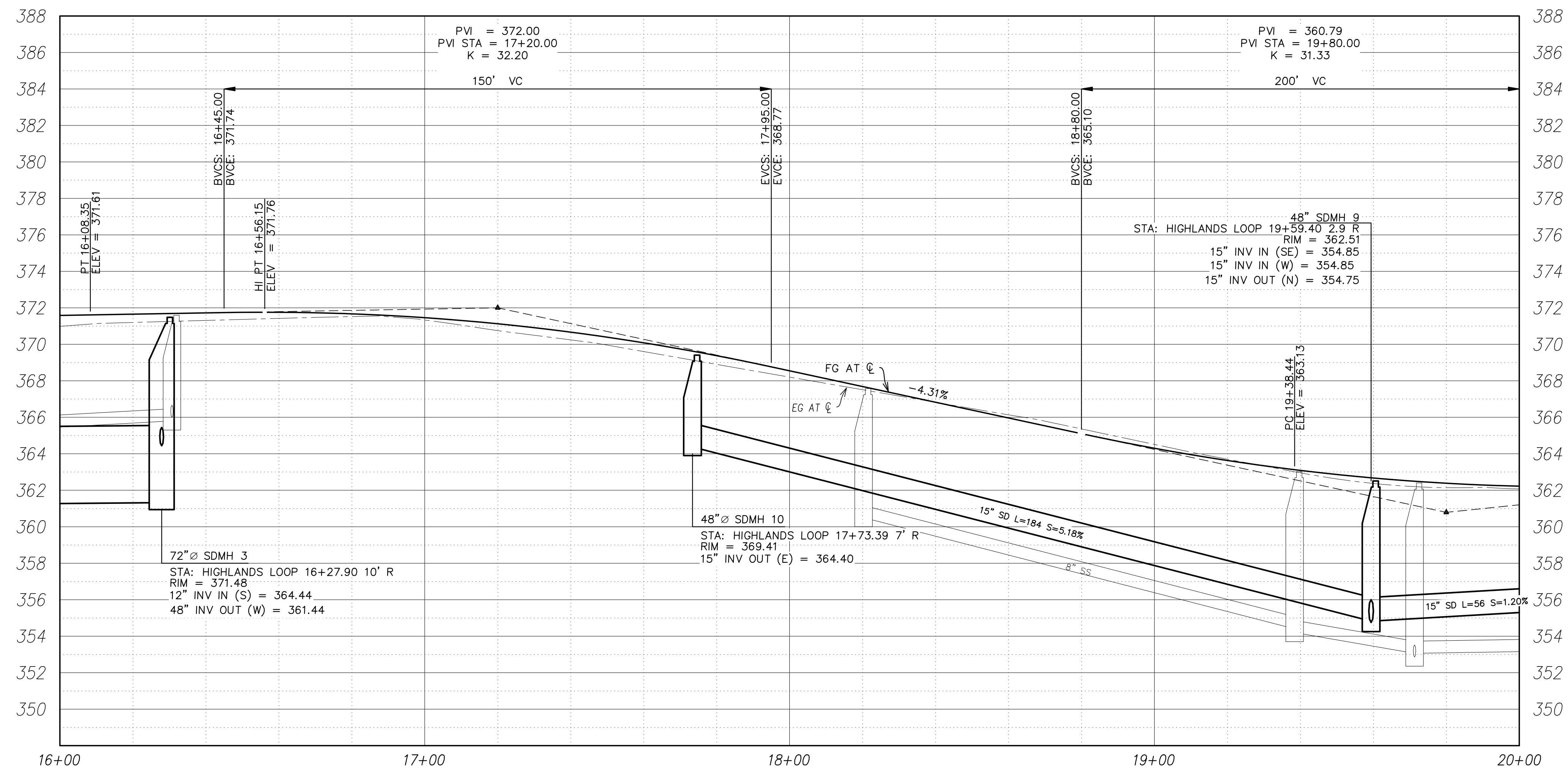
TIM WENGER  
RIDGVIEW SUBDIVISION - PHASES III - VI  
**HIGHLANDS LOOP - PLAN & PROFILE STA. 12+08 - 16+00**

DRAWING  
**ST-2**  
JOB NUMBER  
13154.2000

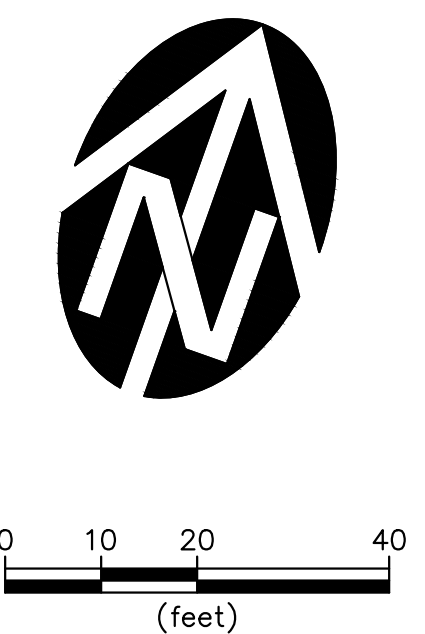
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PLAN 16+00 - 20+00  
 1" = 30'



PROFILE 16+00 - 20+00  
 H: 1" = 20' V: 1" = 4'



VERIFY SCALE THIS IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON SCALES ACCURACELY		DSN. SW	DRN. RS	CKD. SW	DATE: 04/2023
NO. 1		DATE		DESCRIPTION	
NO. 1		DATE		REVISIONS	
BY		DATE		DESCRIPTION	



**REVIEW**  
 REGISTERED PROFESSIONAL ENGINEER  
 STEVEN H. WEST  
 LICENSE NO. 1616  
 OREGON  
 EXPIRES: 6/30/2024



**WESTECH ENGINEERING, INC.**  
 CONSULTING ENGINEERS AND PLANNERS  
 3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302  
 Phone: (503) 585-2474 Fax: (503) 585-3966  
 E-mail: westech@westech-eng.com

TIM WENGER  
 RIDGEVIEW SUBDIVISION - PHASES III - VI  
**HIGHLANDS LOOP - PLAN & PROFILE STA. 16+00 - 20+00**

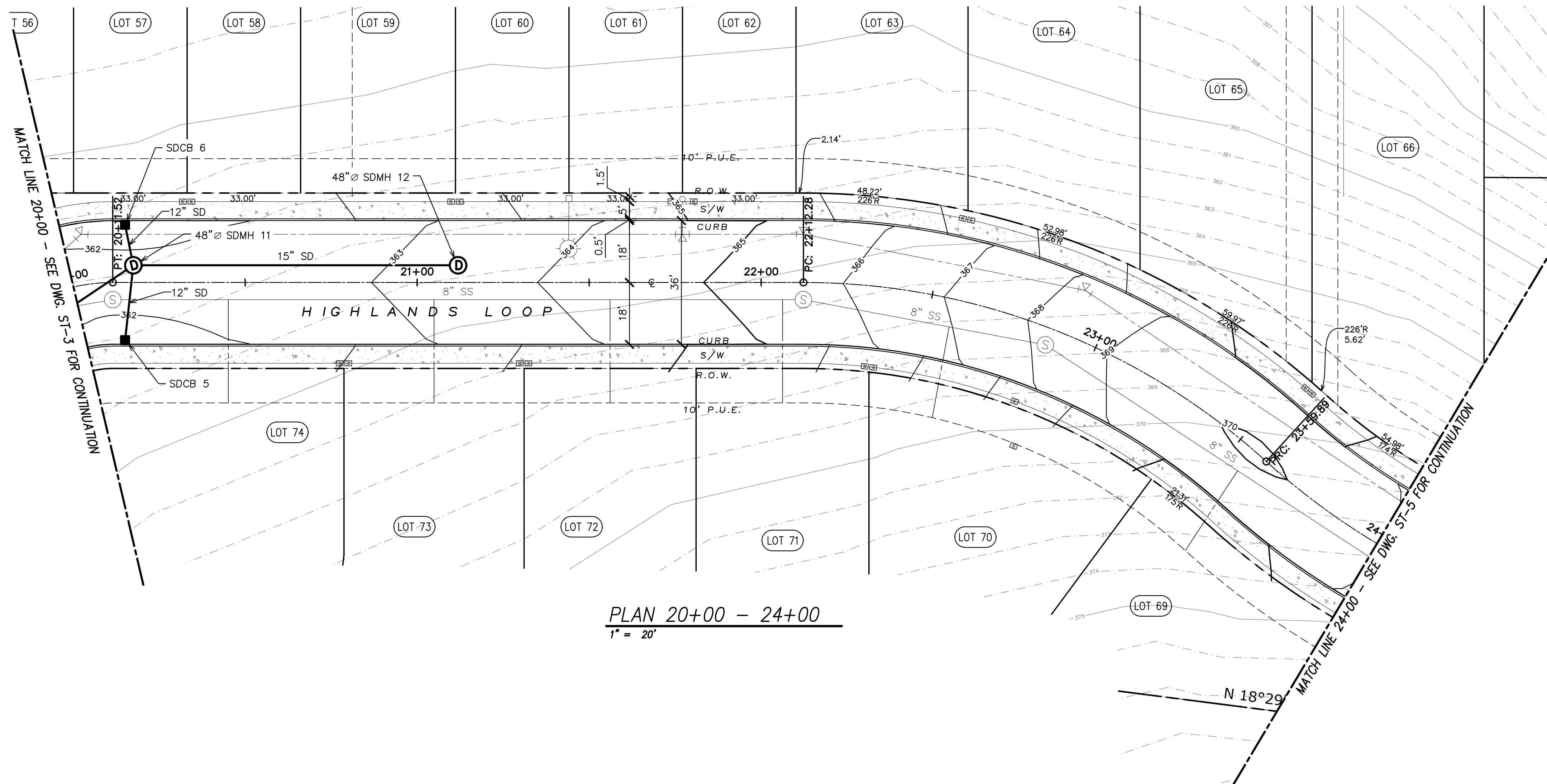
  

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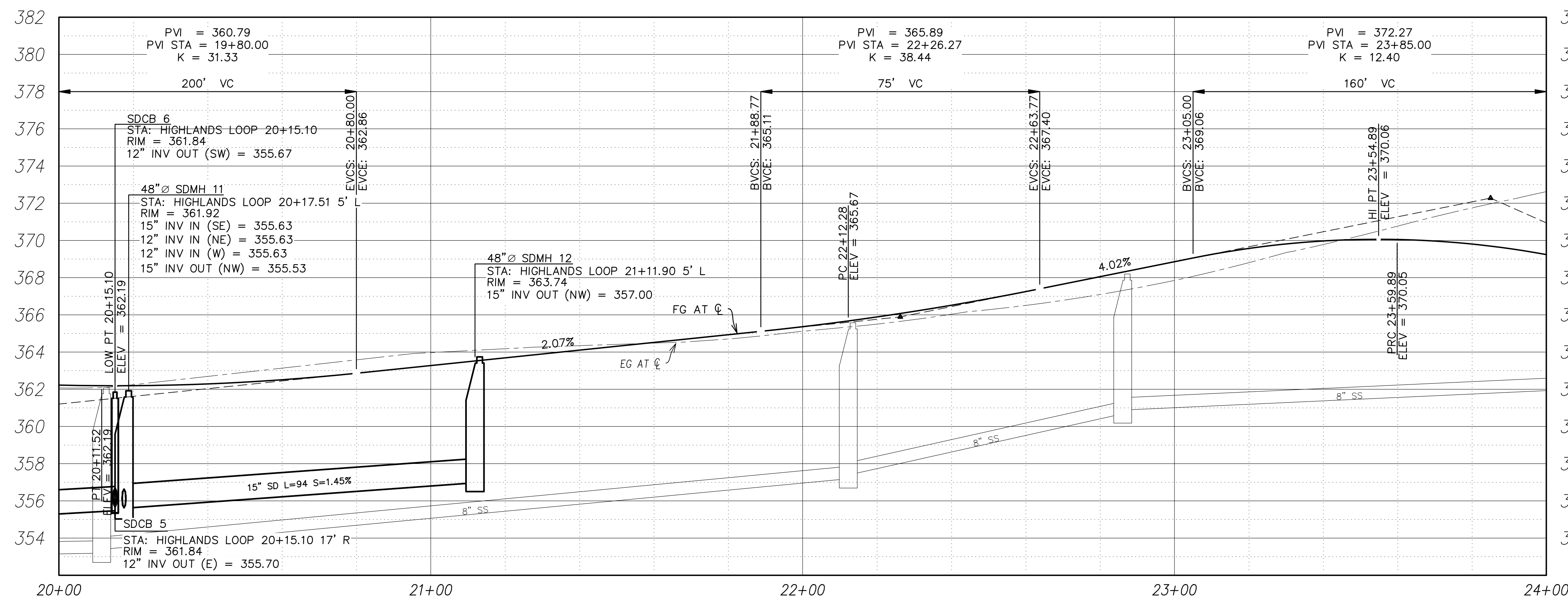
  

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PLAN 20+00 - 24+00  
 1" = 20'

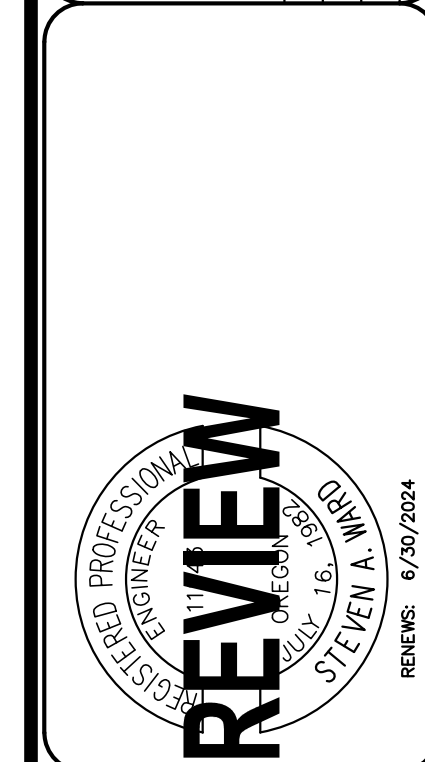


PROFILE 20+00 - 24+00  
 H: 1" = 20' V: 1" = 4'

NO.	DATE	DESCRIPTION	BY
1	04/2023		

VERIFY SCALE  
 BASE IS ONE INCH ON ORIGINAL DRAWING  
 IF NOT ONE INCH ON SCALES ACCURACLY

DSN. SW  
 DRN. RS  
 CKD. SW  
 DATE: 04/2023

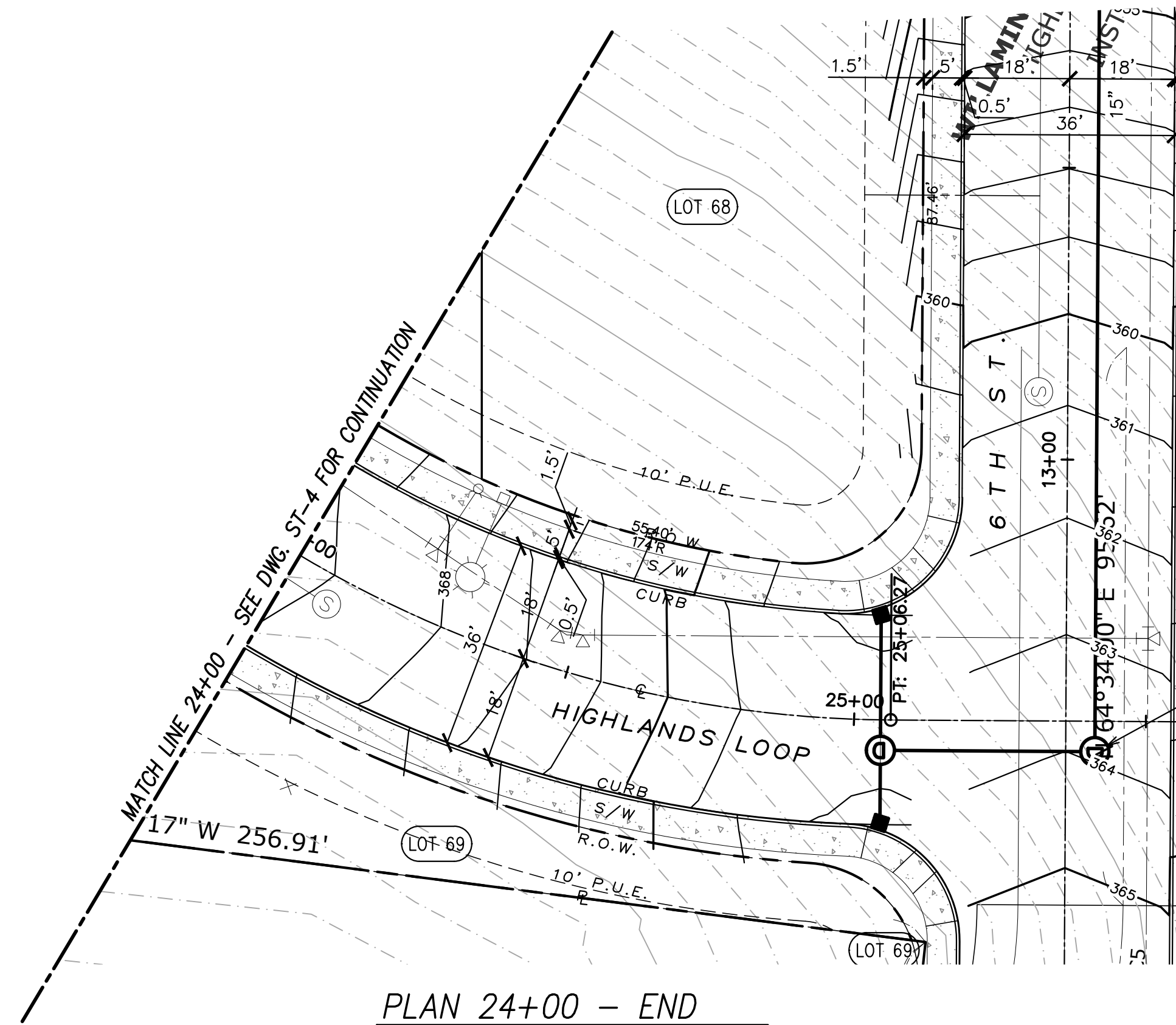


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 CONSULTING ENGINEERS AND PLANNERS

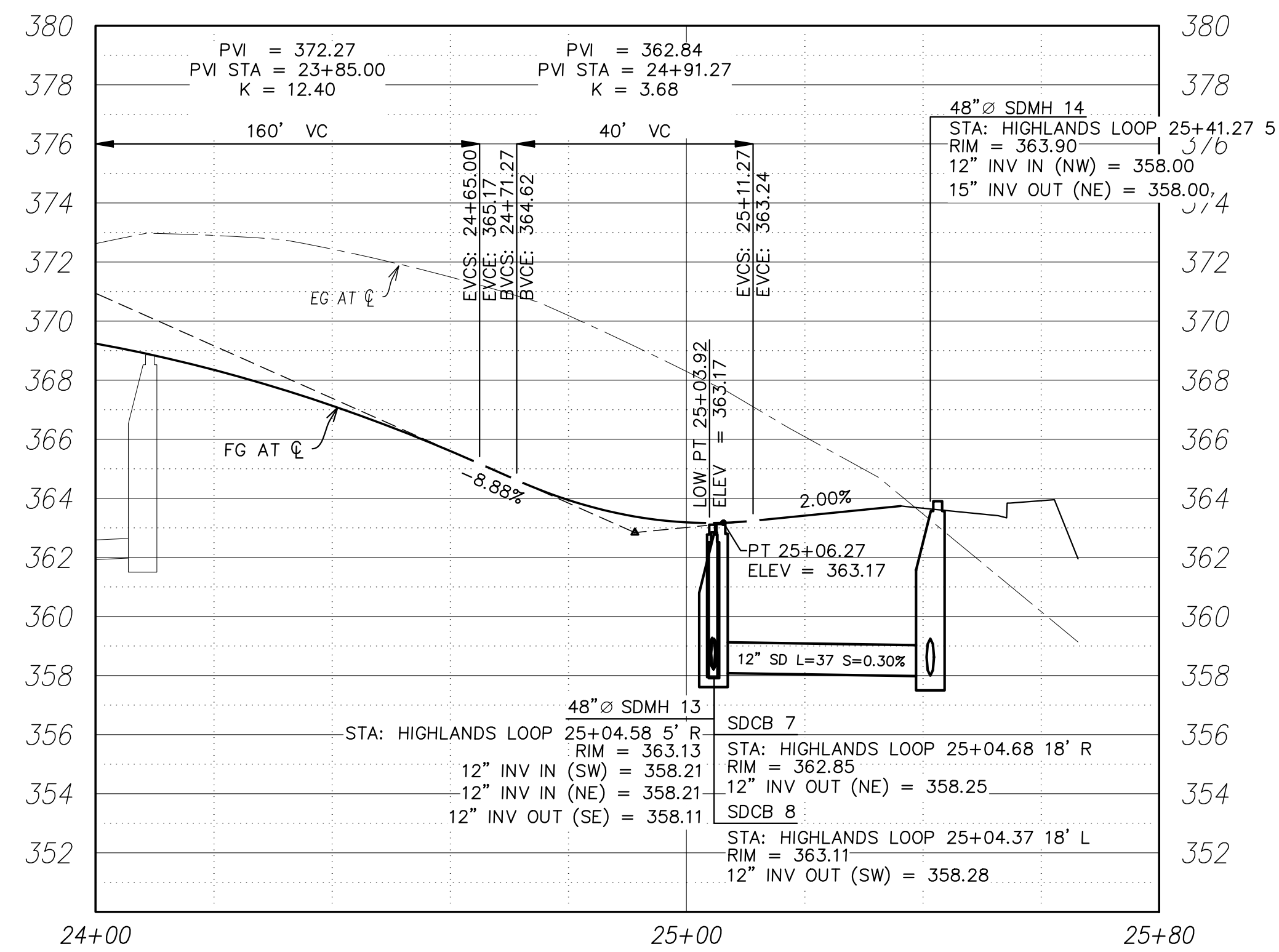
3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302  
 Phone: (503) 585-2474 Fax: (503) 585-3966  
 E-mail: westtech@westtech-eng.com

TIM WENGER  
 RIDGEVIEW SUBDIVISION - PHASES III - VI  
 HIGHLANDS LOOP - PLAN &  
 PROFILE STA. 20+00 -  
 24+00

DRAWING  
 ST-4  
 JOB NUMBER  
 3154.2000

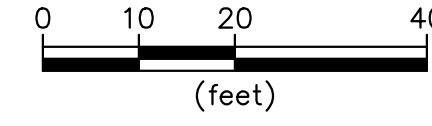
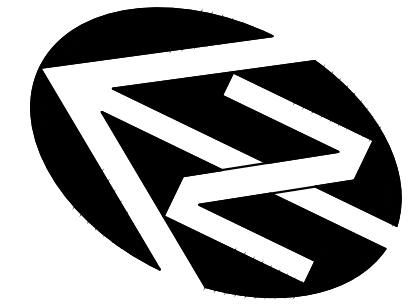


PLAN 24+00 - END  
1" = 20'



PROFILE 24+00 - END  
H: 1" = 20' V: 1" = 4'

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NO.	DATE	DESCRIPTION	BY
1			

VERIFY SCALE  
BASE IS ONE INCH ON ORIGINAL DRAWING  
IF NOT ONE INCH ON SCALES ACCORDINGLY

DSN. SW  
DRN. RS  
CKD. SW  
DATE: 04/2023



**WESTTECH ENGINEERING, INC.**  
CONSULTING ENGINEERS AND PLANNERS

**WE**

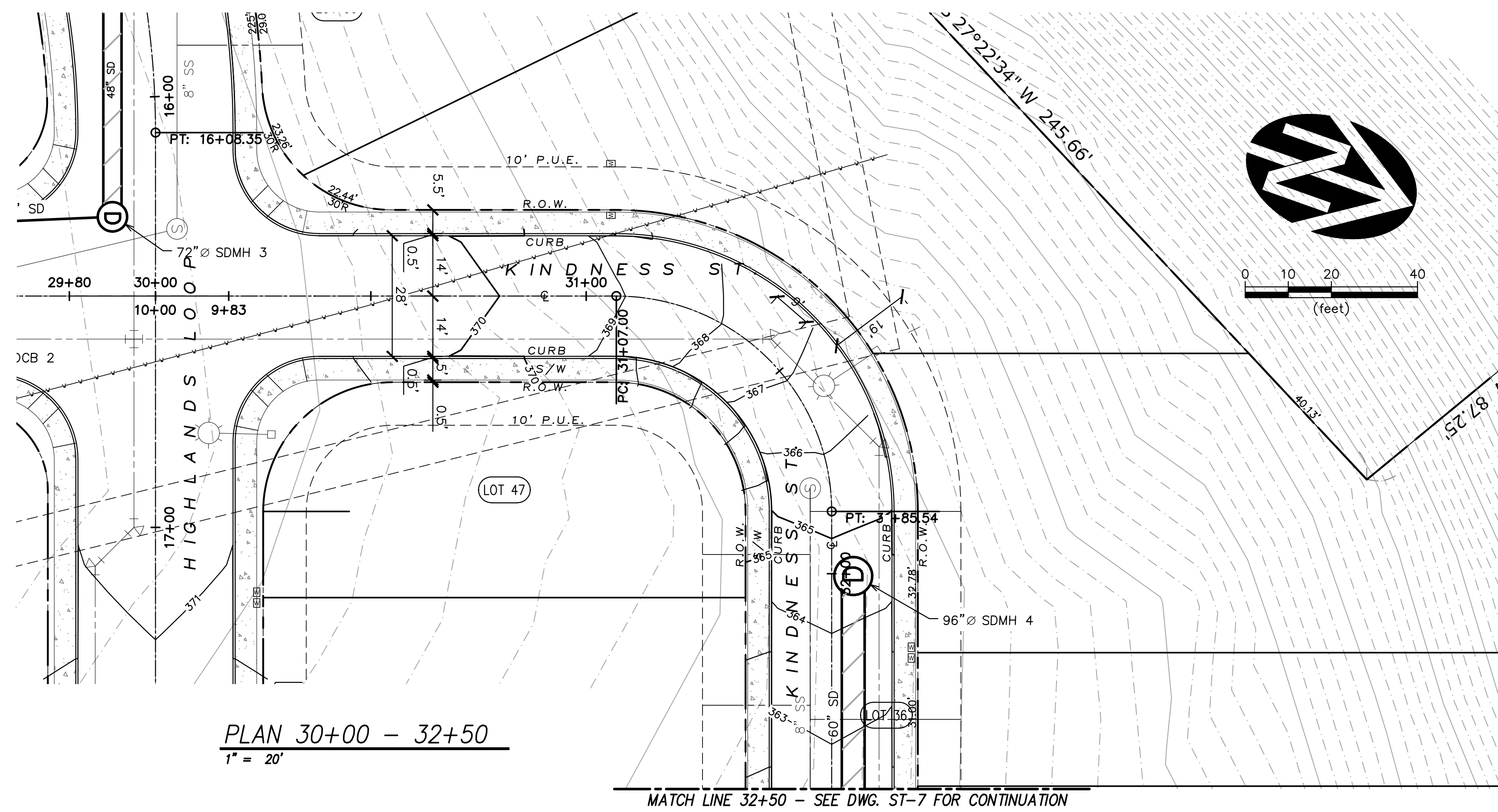
3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302  
Phone: (503) 585-2474 Fax: (503) 585-3966  
E-mail: westtech@westtech-eng.com

TIM WENGER  
RIDGEVIEW SUBDIVISION - PHASES III - VI  
HIGHLANDS LOOP - PLAN &  
PROFILE STA. 24+00 - END

DRAWING  
ST-5  
JOB NUMBER  
3154.2000

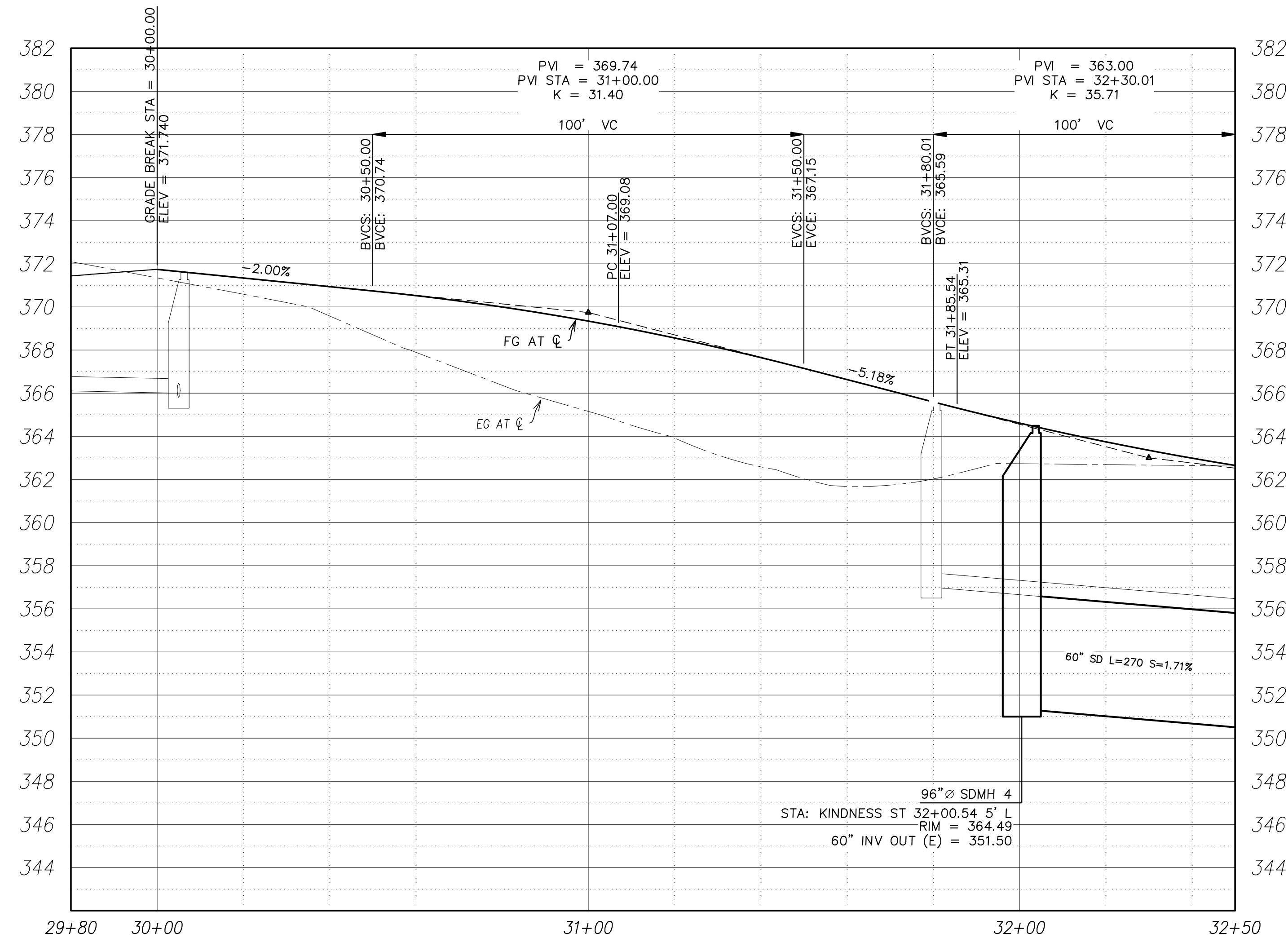


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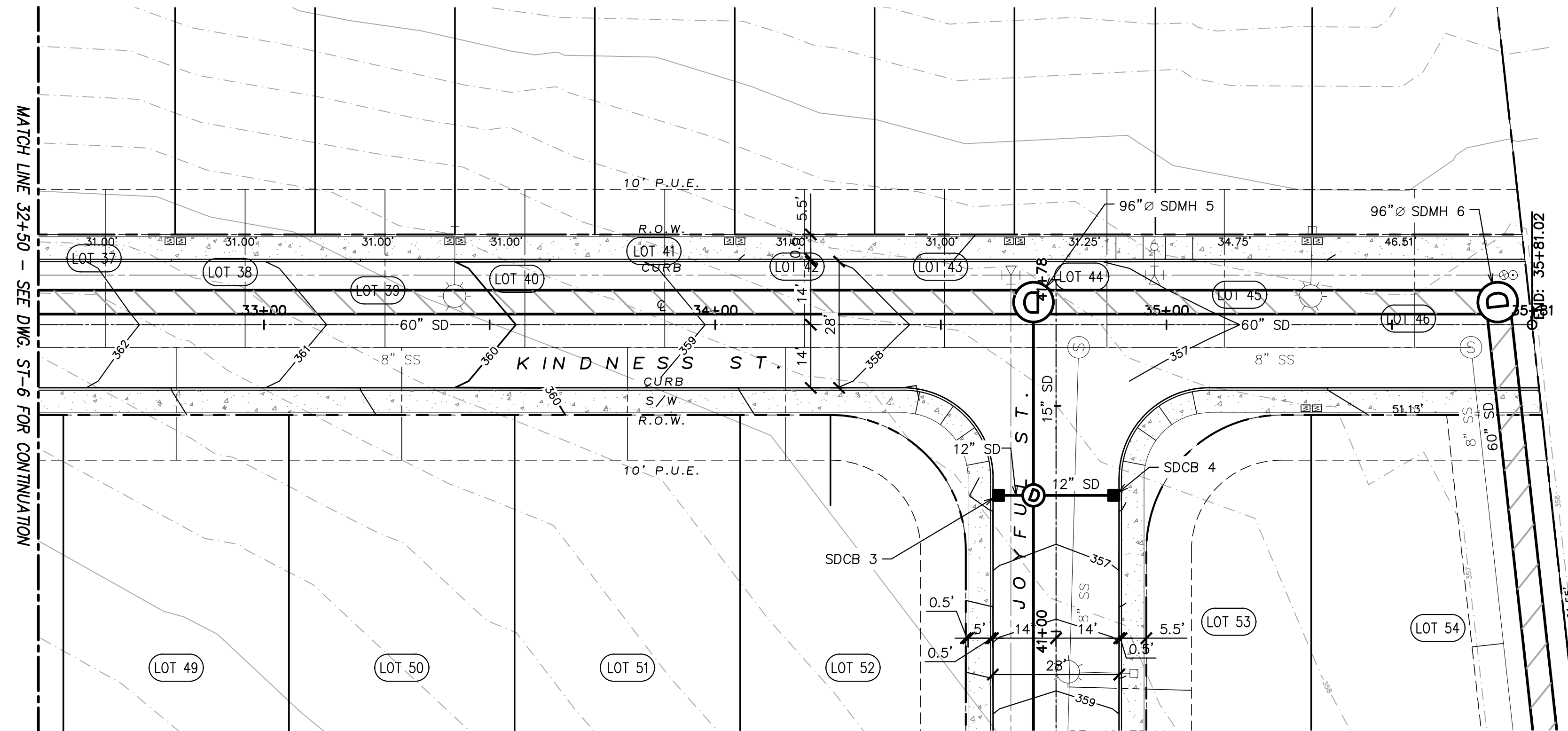
PLAN 30+00 - 32+50  
 1" = 20'

MATCH LINE 32+50 - SEE DWG. ST-7 FOR CONTINUATION

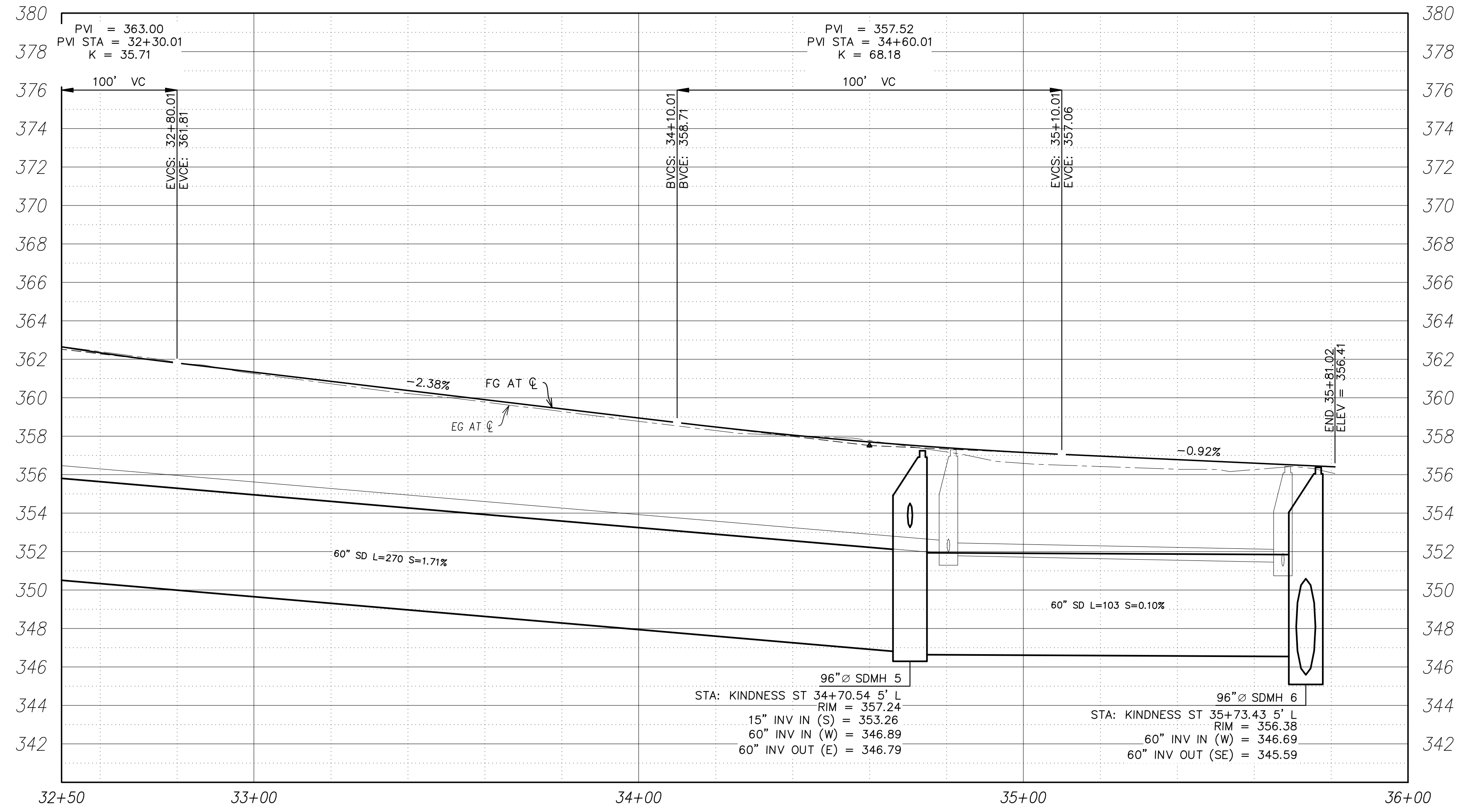
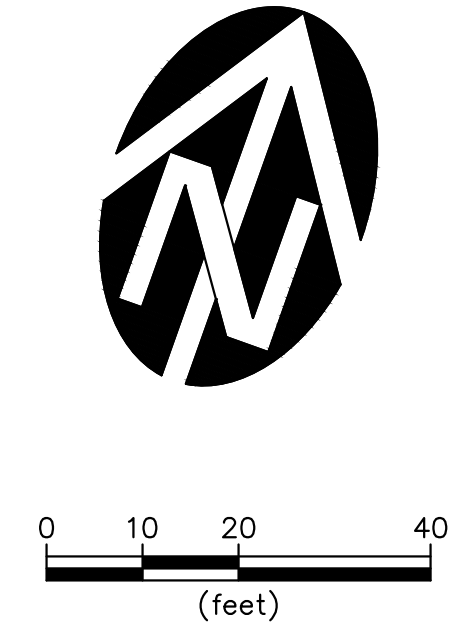


PROFILE 30+00 - 32+50  
 H: 1" = 20' V: 1" = 4'

<p>VERIFY SCALE          BAR IS ONE INCH ON ORIGINAL DRAWING          IF NOT ONE INCH ON SCALES ACCURACELY</p>		<p>DSN. SW          DRN. RS          CKD. SW</p>	<p>NO. 1          DATE          DESCRIPTION          REVISIONS</p>	<p>BY</p>
<p>DATE: 04/2023</p>				
<p><b>WESTTECH ENGINEERING, INC.</b>          CONSULTING ENGINEERS AND PLANNERS          3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302          Phone: (503) 585-2474 Fax: (503) 585-3966          E-mail: westtech@westtech-eng.com</p>				
<p>TIM WENGER          RIDGEVIEW SUBDIVISION - PHASES III - VI          KINDNESS STREET - PLAN &amp;          PROFILE STA. 30+00 -          32+50</p>				
<p>DRAWING  <b>ST-6</b></p>				
<p>JOB NUMBER          13154.2000</p>				



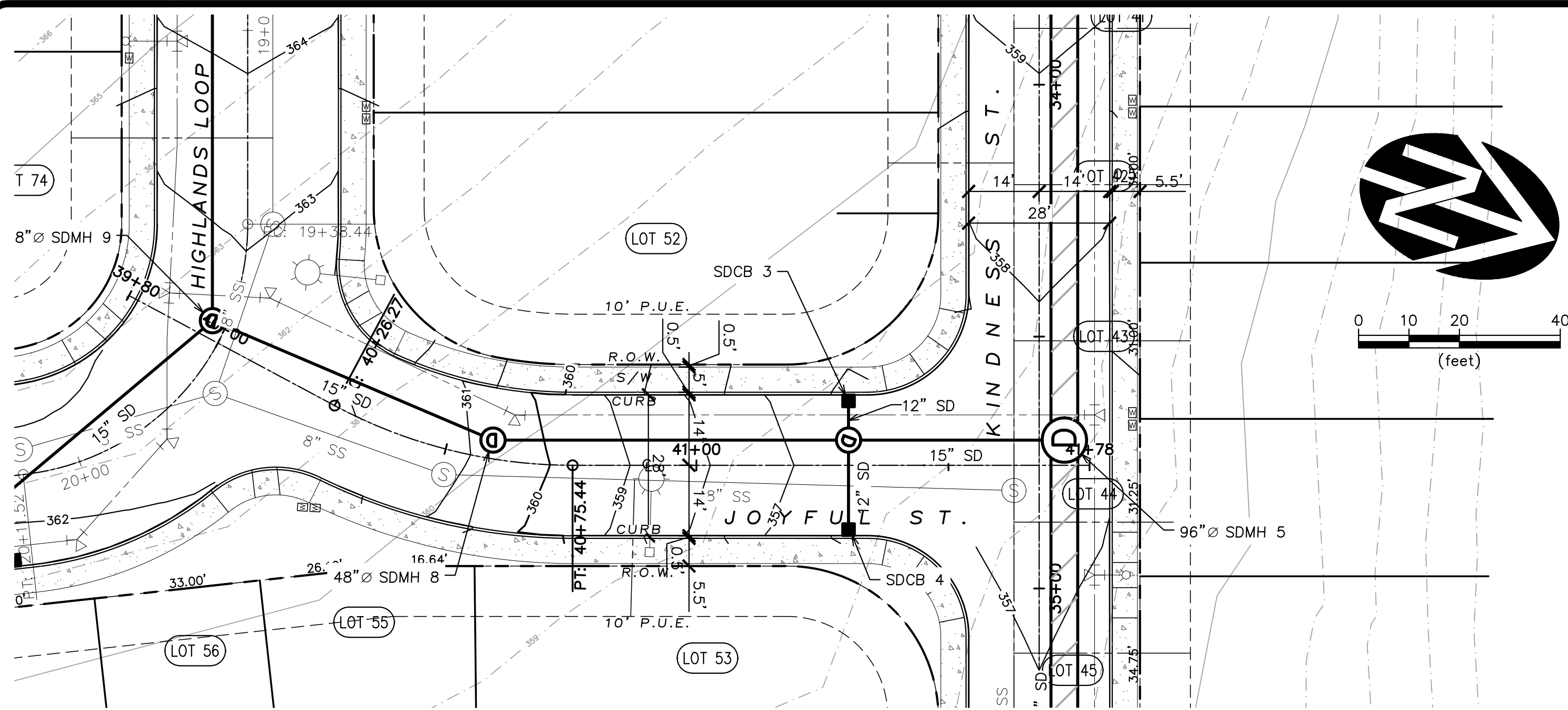
PLAN 32+50 - END  
1" = 20'



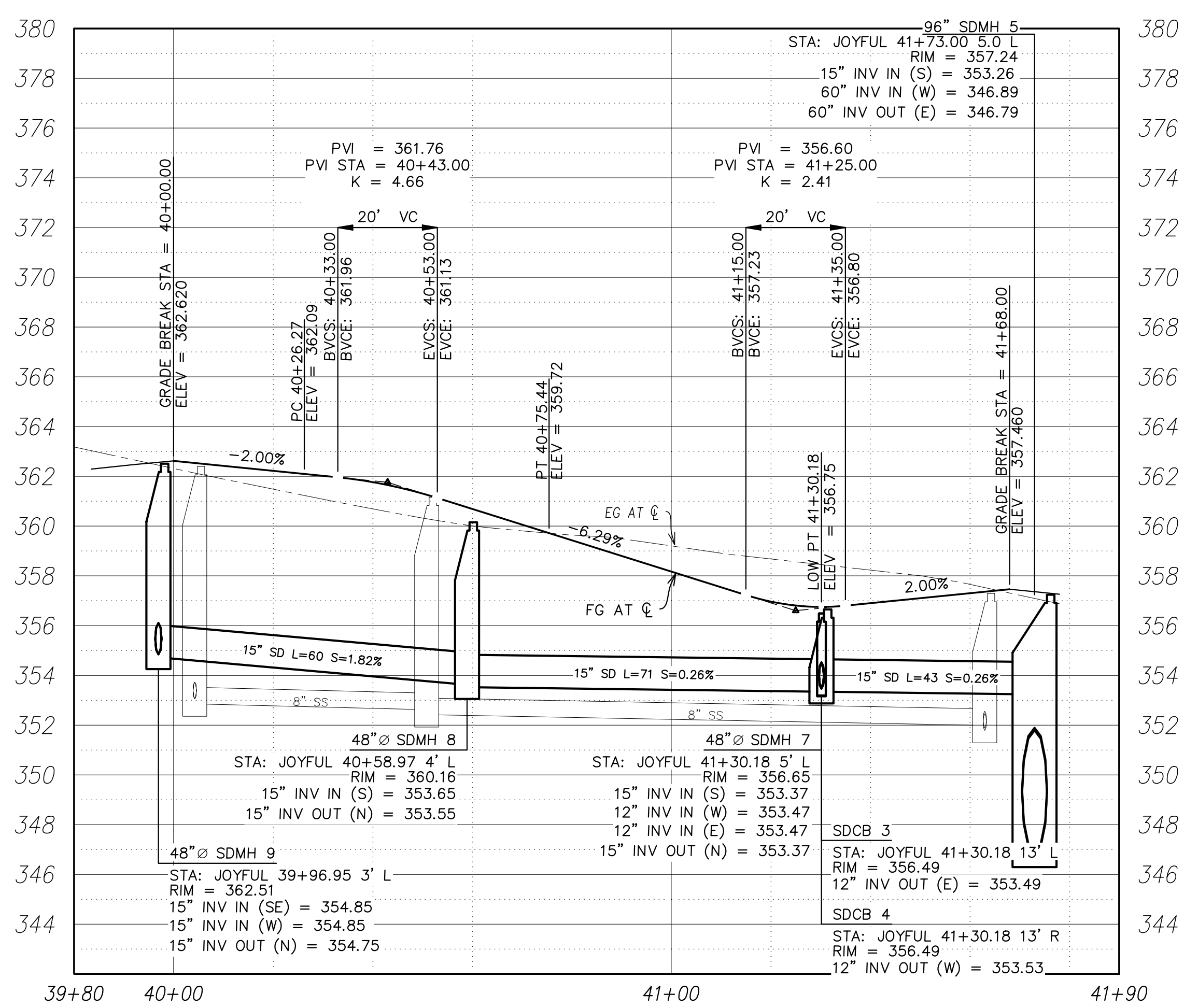
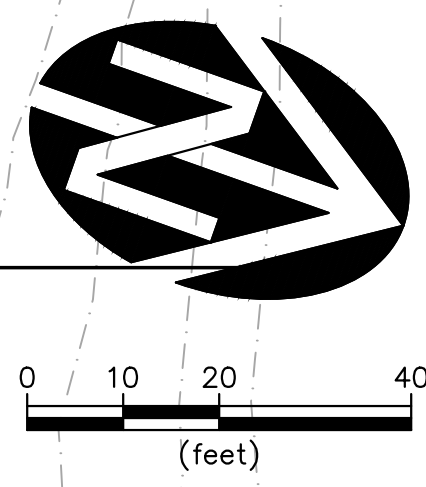
PROFILE 32+50 - END  
H: 1" = 20' V: 1" = 4'

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	<b>REVIEW</b> <small>REGISTERED PROFESSIONAL ENGINEER</small> <small>EXPIRES 12/31/2024</small> <small>REVISIONS: 6/20/2024</small>								
<b>WESTTECH ENGINEERING, INC.</b> <small>CONSULTING ENGINEERS AND PLANNERS</small> 									
<small>3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302</small> <small>Phone: (503) 585-2474 Fax: (503) 585-3966</small> <small>E-mail: westtech@westtech-eng.com</small>									
<b>TIM WENGER</b> RIDGEVIEW SUBDIVISION - PHASES III - VI <b>KINDNESS STREET - PLAN &amp; PROFILE STA. 32+50 - END</b>									
<b>DRAWING ST-7</b>									
JOB NUMBER <b>13154.2000</b>									
<small>VERIFY SCALE</small> <small>BASE IS ONE INCH ON ORIGINAL DRAWING</small> <small>IF NOT ONE INCH ON SCALES ACCURACELY</small>	<small>DATE: 04/2023</small> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> <th>BY</th> </tr> <tr> <td>1</td> <td></td> <td></td> <td></td> </tr> </table>	NO.	DATE	DESCRIPTION	BY	1			
NO.	DATE	DESCRIPTION	BY						
1									



**PLAN**  
1" = 20'



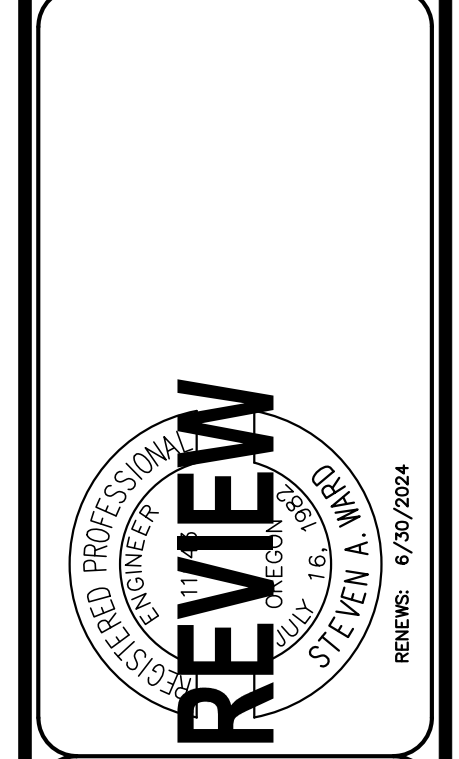
**PROFILE**  
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NO.	DATE	DESCRIPTION	BY
1	04/20/23		

VERIFY SCALE  
BAR IS ONE INCH ON ORIGINAL DRAWING  
IF NOT ONE INCH ON SCALES ACCURACELY

DSN. SW  
DRN. RS  
CKD. SW  
DATE: 04/20/23



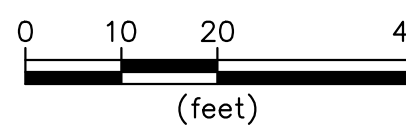
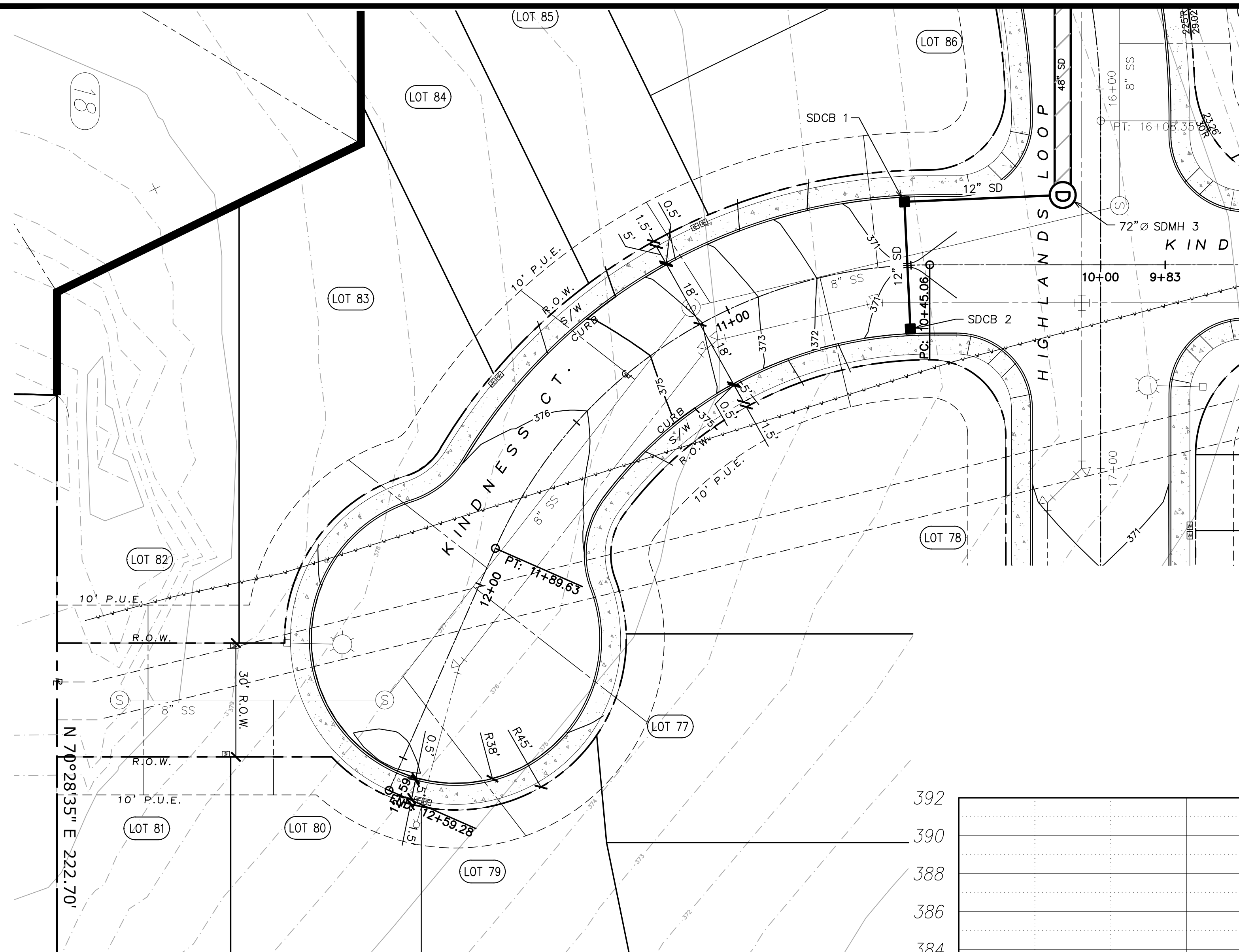
**WESTTECH ENGINEERING, INC.**  
CONSULTING ENGINEERS AND PLANNERS

3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302  
Phone: (503) 565-2474 Fax: (503) 565-3966  
E-mail: westtech@westtech-eng.com

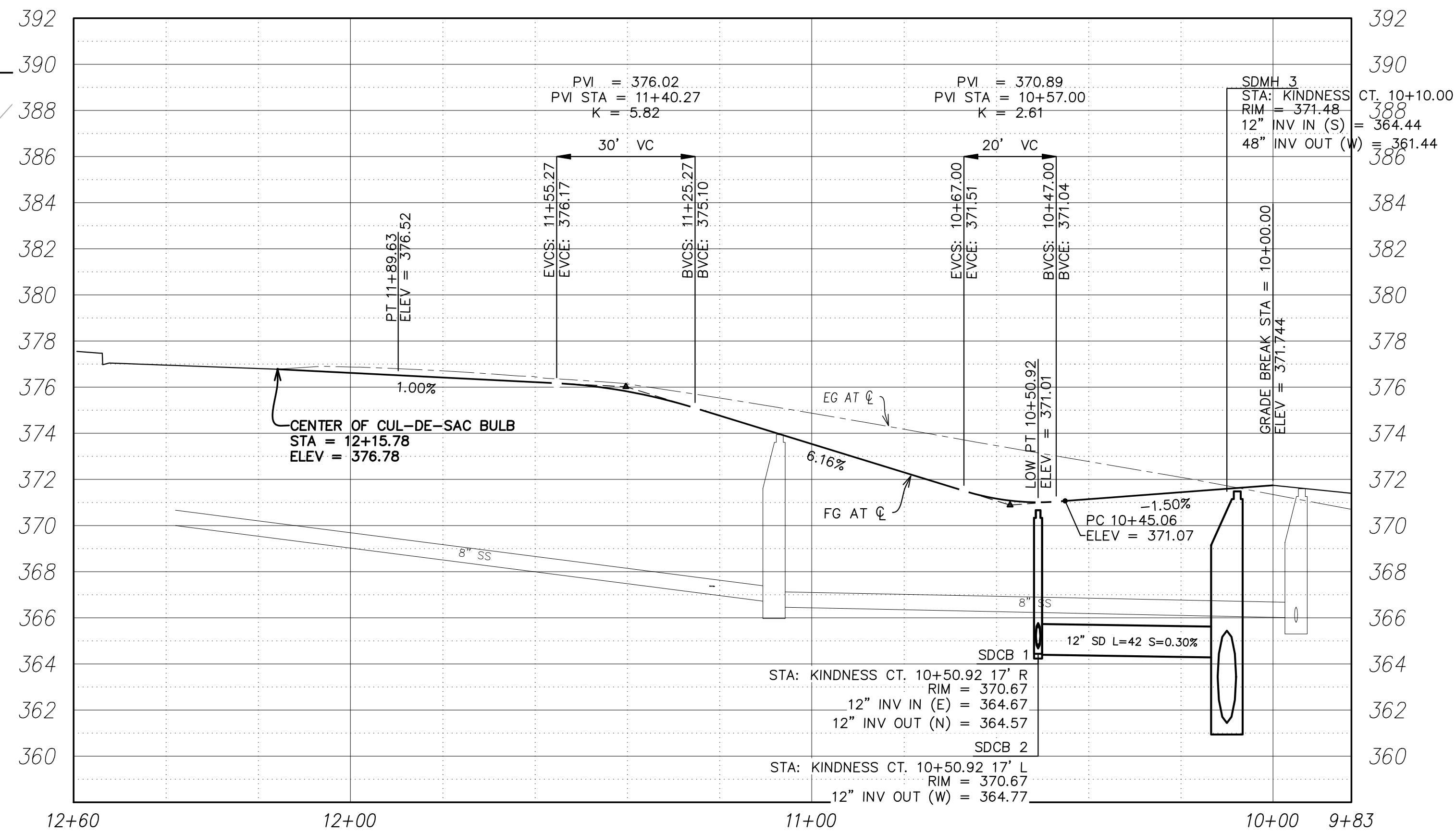
TIM WENGER  
RIDGEVIEW SUBDIVISION - PHASES III - VI  
JOYFUL STREET - PLAN & PROFILE

DRAWING  
**ST-8**  
JOB NUMBER  
3154.2000

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PLAN  
 1" = 20'

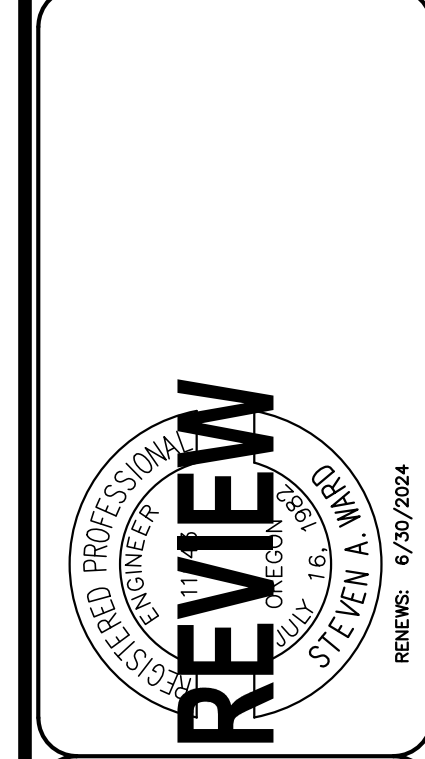


PROFILE  
 H: 1" = 20' V: 1" = 4'

NO.	DATE	DESCRIPTION	BY
1			

VERIFY SCALE  
 BAR IS ONE INCH ON ORIGINAL DRAWING  
 IF NOT ONE INCH ON SCALES ACCURACELY

DATE: 04/2023



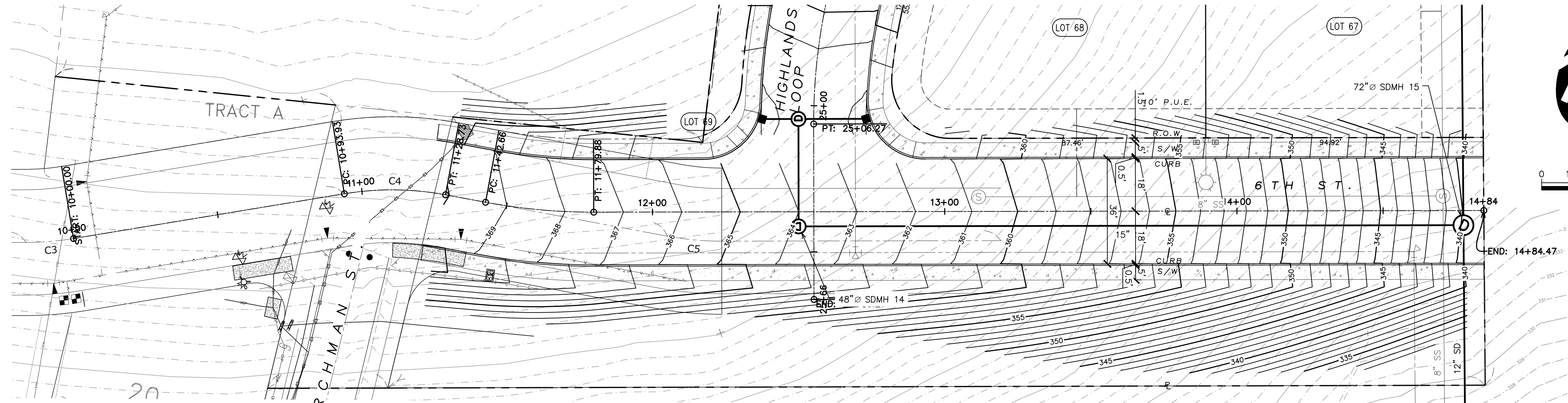
**WESTTECH ENGINEERING, INC.**  
 CONSULTING ENGINEERS AND PLANNERS

3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302  
 Phone: (503) 565-2474 Fax: (503) 565-3966  
 E-mail: westtech@westtech-eng.com

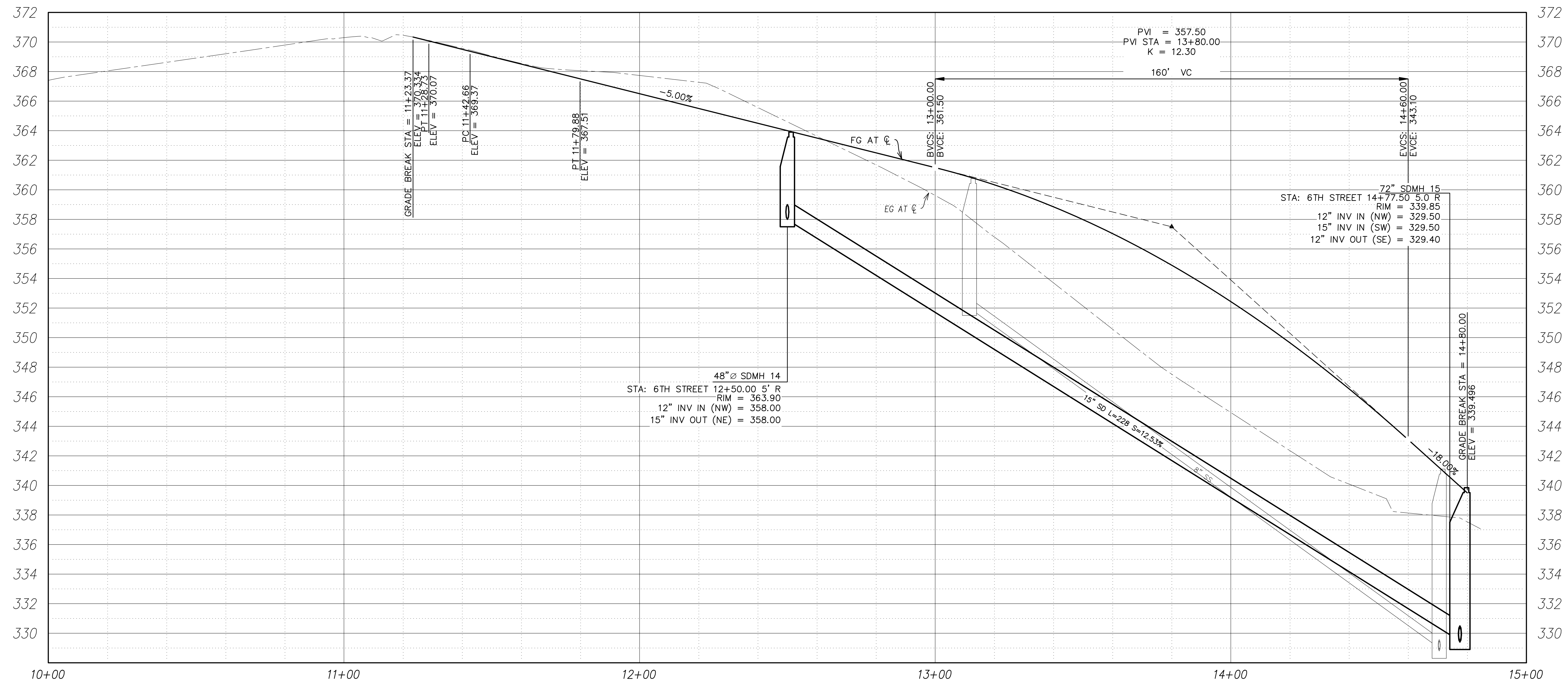
TIM WENGER  
 RIDGEVIEW SUBDIVISION - PHASES III - VI  
 KINDNESS COURT - PLAN & PROFILE

DRAWING  
 ST-9  
 JOB NUMBER  
 3154.2000



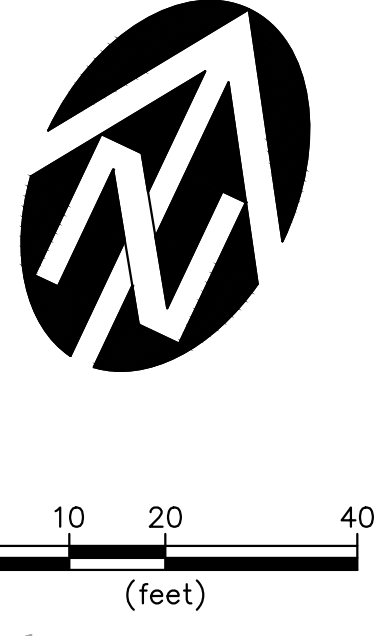


PLAN  
1" = 20'



PROFILE  
H: 1" = 20' V: 1" = 4'

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NO.	DATE	DESCRIPTION	BY
1	04/20/2023		

VERIFY SCALE  
BAR IS ONE INCH ON ORIGINAL DRAWING  
IF NOT ONE INCH ON SCALES ACCURACLY

DSN. SW  
DRN. RS  
CKD. SW

DATE: 04/20/2023

**WE**  
WESTTECH ENGINEERING, INC.  
CONSULTING ENGINEERS AND PLANNERS

3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302  
Phone: (503) 585-2474 Fax: (503) 585-3966  
E-mail: westtech@westtech-eng.com

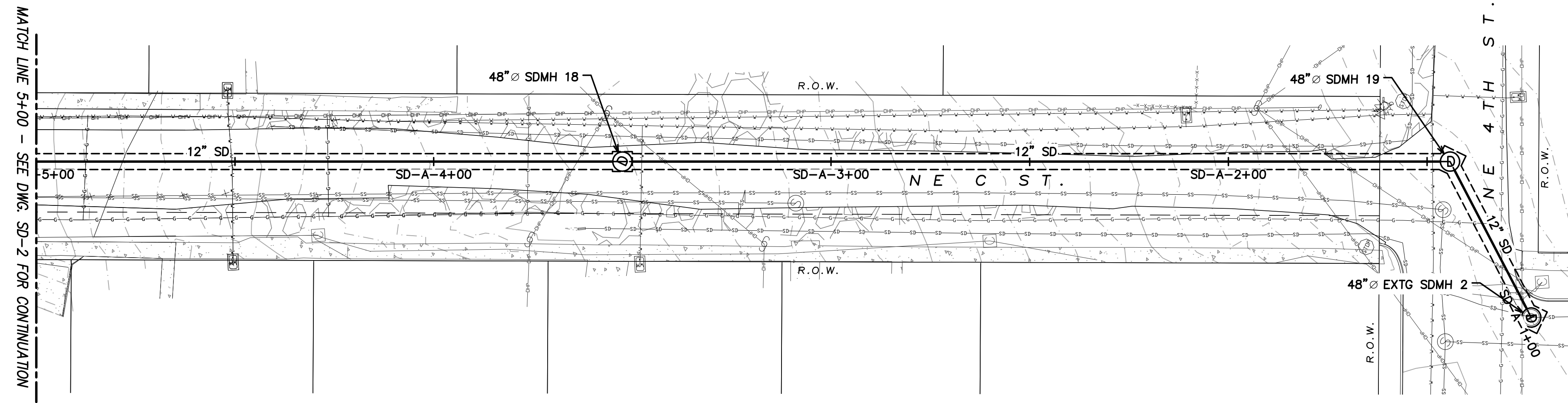
TIM WENGER  
RIDGEVIEW SUBDIVISION - PHASES III - VI

**6TH STREET - PLAN & PROFILE**

DRAWING  
ST-10

JOB NUMBER  
3154.2000

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PLAN 1+00 - 5+00  
 1" = 20'

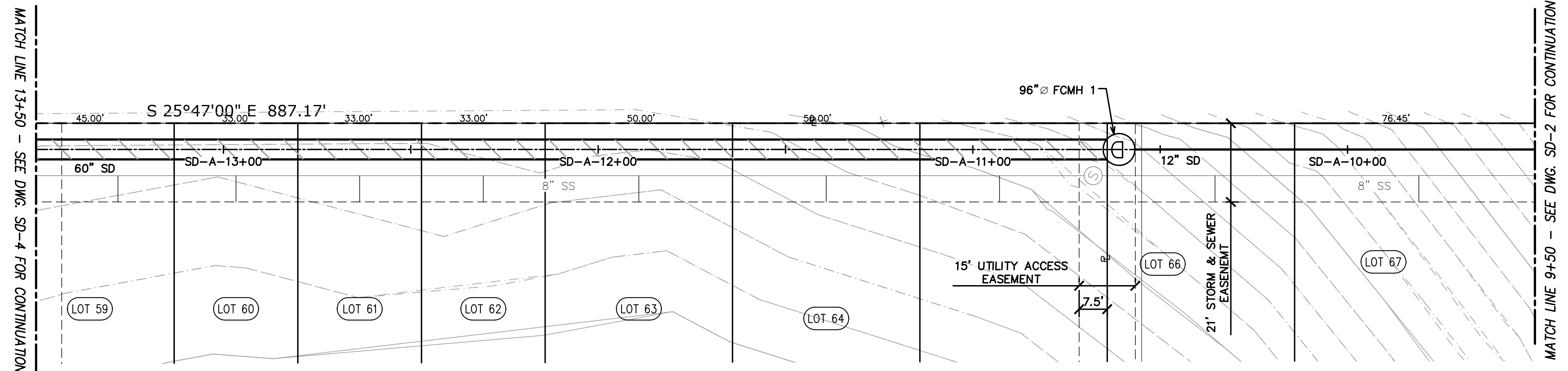


PROFILE 1+00 - 5+00  
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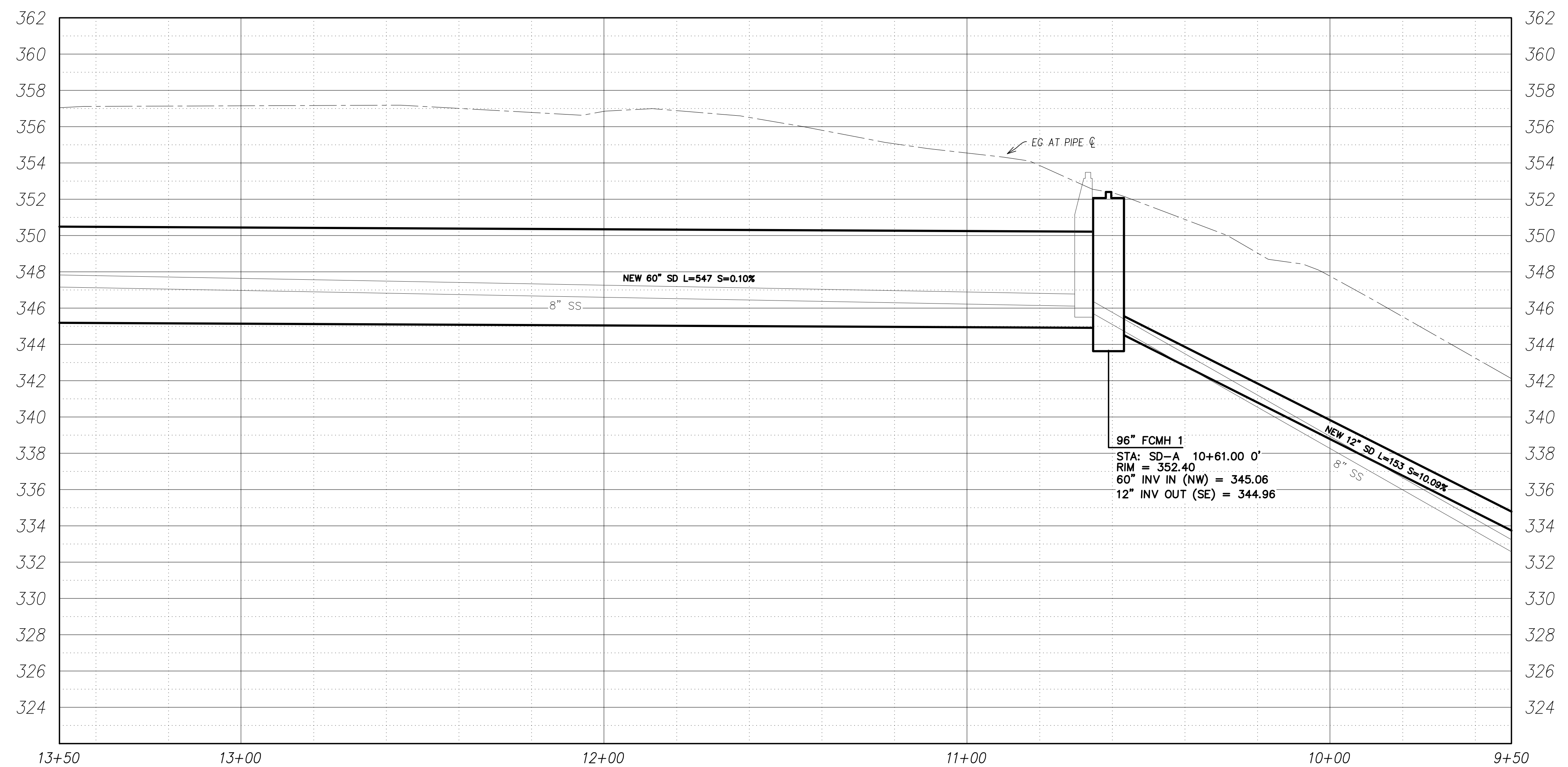
<b>WESTECH ENGINEERING, INC.</b> CONSULTING ENGINEERS AND PLANNERS 3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302 Phone: (503) 585-2474 Fax: (503) 585-3966 E-mail: westech@westech-eng.com	
<b>REVIEW</b> REGISTERED PROFESSIONAL ENGINEER CIVIL STEVEN H. WENGER License No. 16	
TIM WENGER RIDGEVIEW SUBDIVISION - PHASES III - VI SD-A LINE - PLAN & PROFILE STA. 1+00 - 5+00	
DRAWING <b>SD-1</b>	
JOB NUMBER <b>3154.2000</b>	
VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON SCALES ACCURACELY	DATE: 04/2023
DSN. SW DRN. RS CKD. SW	NO. 1 DATE DESCRIPTION REVISIONS



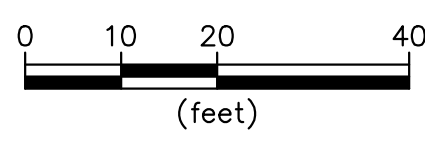
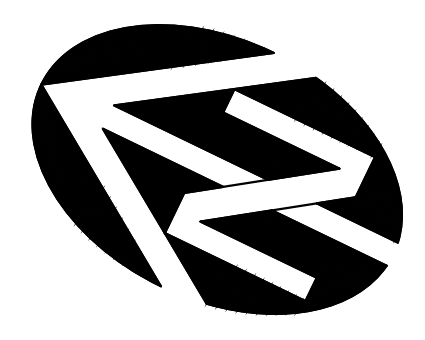
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**PLAN 9+50 - 13+50**  
 1" = 20'



**PROFILE 9+50 - 13+50**  
 H: 1" = 20' V: 1" = 4'



NO.	DATE	DESCRIPTION	BY
1	04/2023		

VERIFY SCALE  
 BAR IS ONE INCH ON ORIGINAL DRAWING  
 IF NOT ONE INCH ON SCALES ACCURACLY

DSN. SW  
 DRN. RS  
 CKD. SW  
 DATE: 04/2023

**REVIEW**  
 REGISTERED PROFESSIONAL ENGINEER  
 STEVEN H. GIBBY  
 LICENSE NO. 1616  
 EXPIRES: 6/30/2024

**WE**  
**WESTTECH ENGINEERING, INC.**  
 CONSULTING ENGINEERS AND PLANNERS

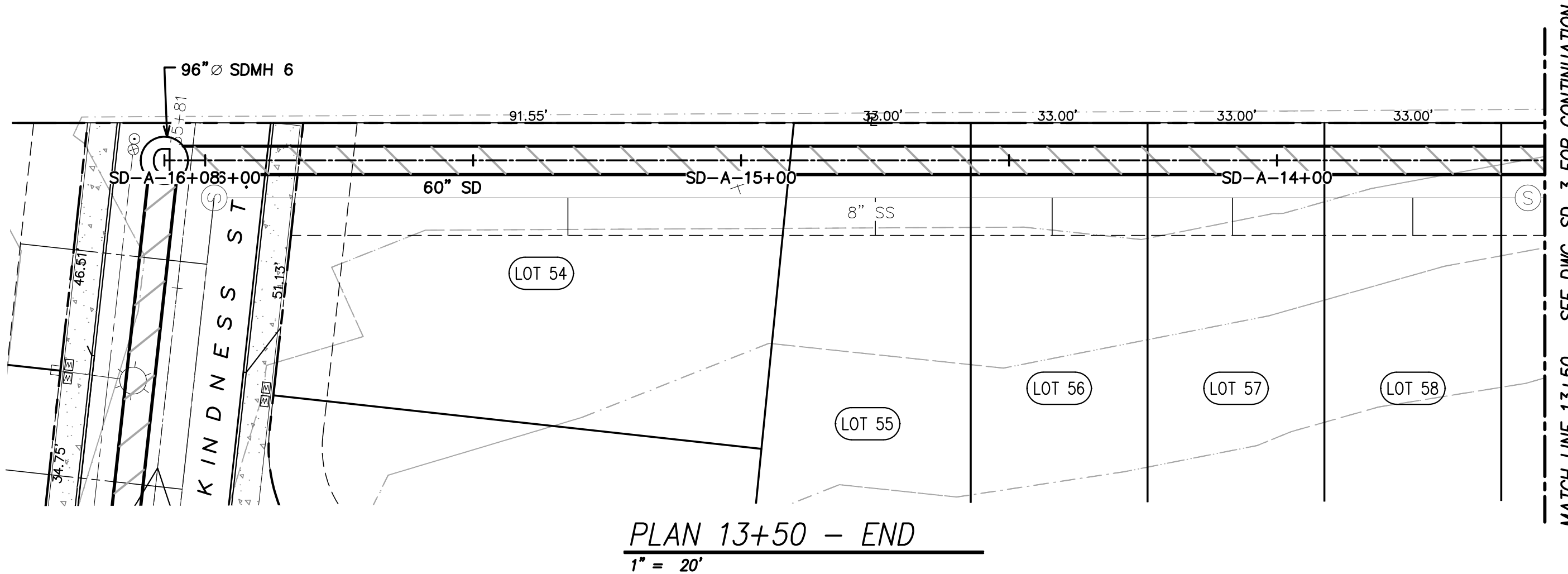
3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302  
 Phone: (503) 585-2474 Fax: (503) 585-3966  
 E-mail: westtech@westtech-eng.com

TIM WENGER  
 RIDGEVIEW SUBDIVISION - PHASES III - VI  
 SD-A LINE - PLAN &  
 PROFILE STA. 9+50 - 13+50

DRAWING  
**SD-3**

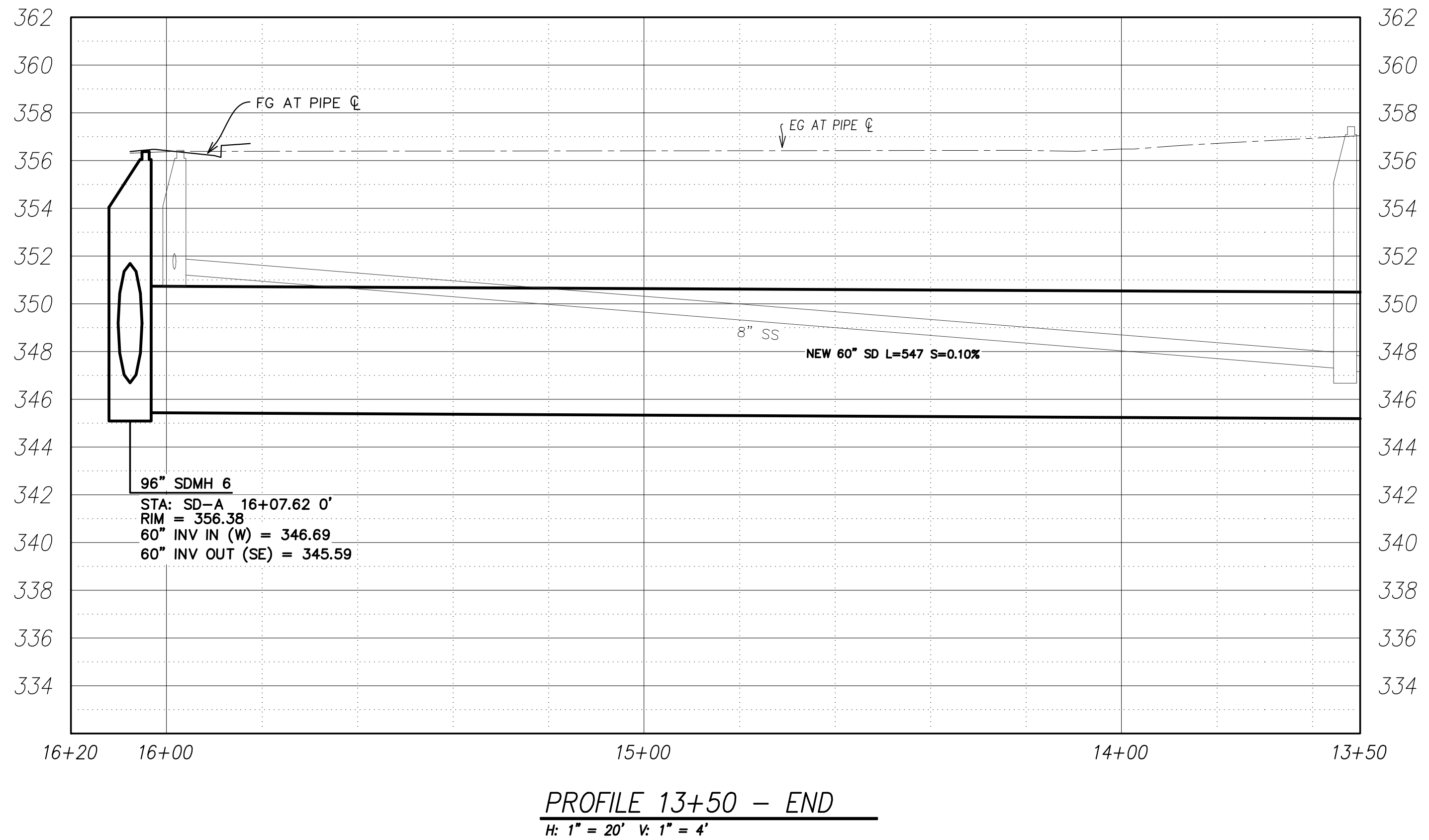
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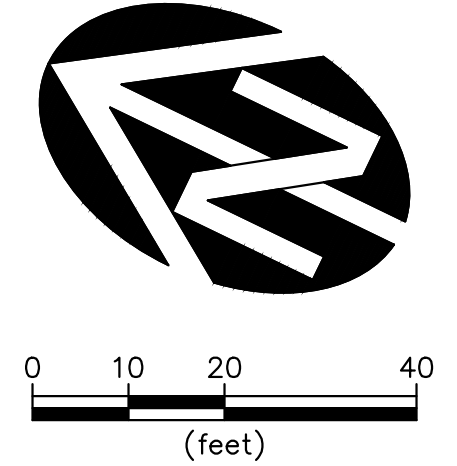
PLAN 13+50 - END  
1" = 20'

MATCH LINE 13+50 - SEE DWG. SD-3 FOR CONTINUATION



PROFILE 13+50 - END  
H: 1" = 20' V: 1" = 4'

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NO.	DATE	DESCRIPTION	BY
1	04/2023		

VERIFY SCALE  
BAR IS ONE INCH ON ORIGINAL DRAWING  
IF NOT ONE INCH ON SCALES ACCURACLY

DSN. SW  
DRN. RS  
CKD. SW  
DATE: 04/2023

**WESTECH ENGINEERING, INC.**  
CONSULTING ENGINEERS AND PLANNERS

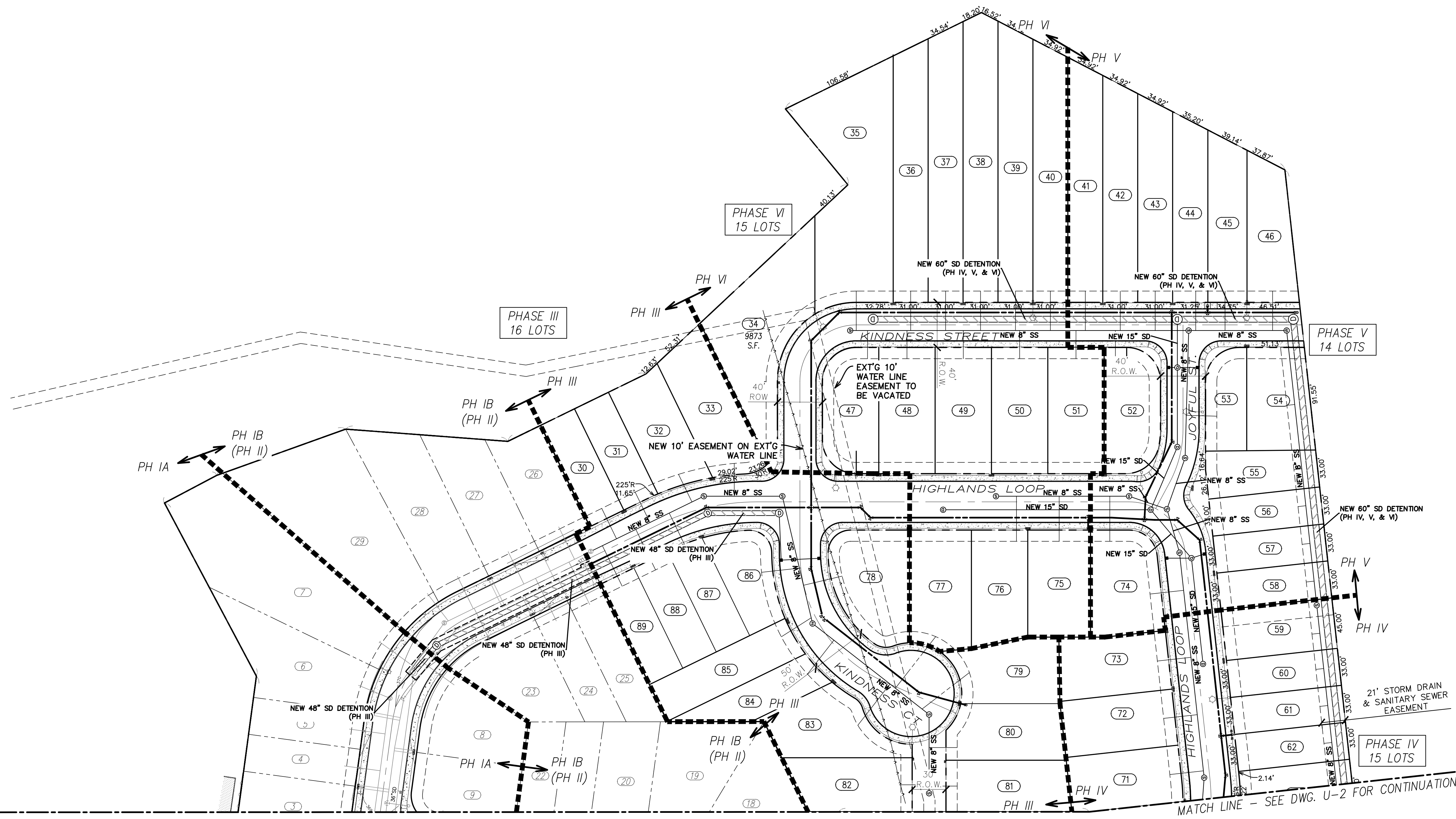
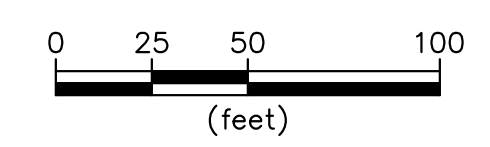
3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302  
Phone: (503) 585-2474 Fax: (503) 585-3966  
E-mail: westech@westech-eng.com

TIM WENGER  
RIDGEVIEW SUBDIVISION - PHASES III - VI  
SD-A LINE - PLAN &  
PROFILE STA. 13+50 - END

DRAWING  
SD-4  
JOB NUMBER  
3154.2000



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NO.	DATE	DESCRIPTION	BY
1			

VERIFY SCALE  
 BAR IS ONE INCH ON  
 ORIGINAL DRAWING  
 IF NOT ONE INCH ON  
 SCALES ACCORDINGLY

DATE: 04/2022

DSN. SW  
 DRN. RS  
 CKD. SW

**REVIEW**

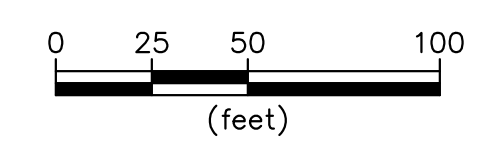
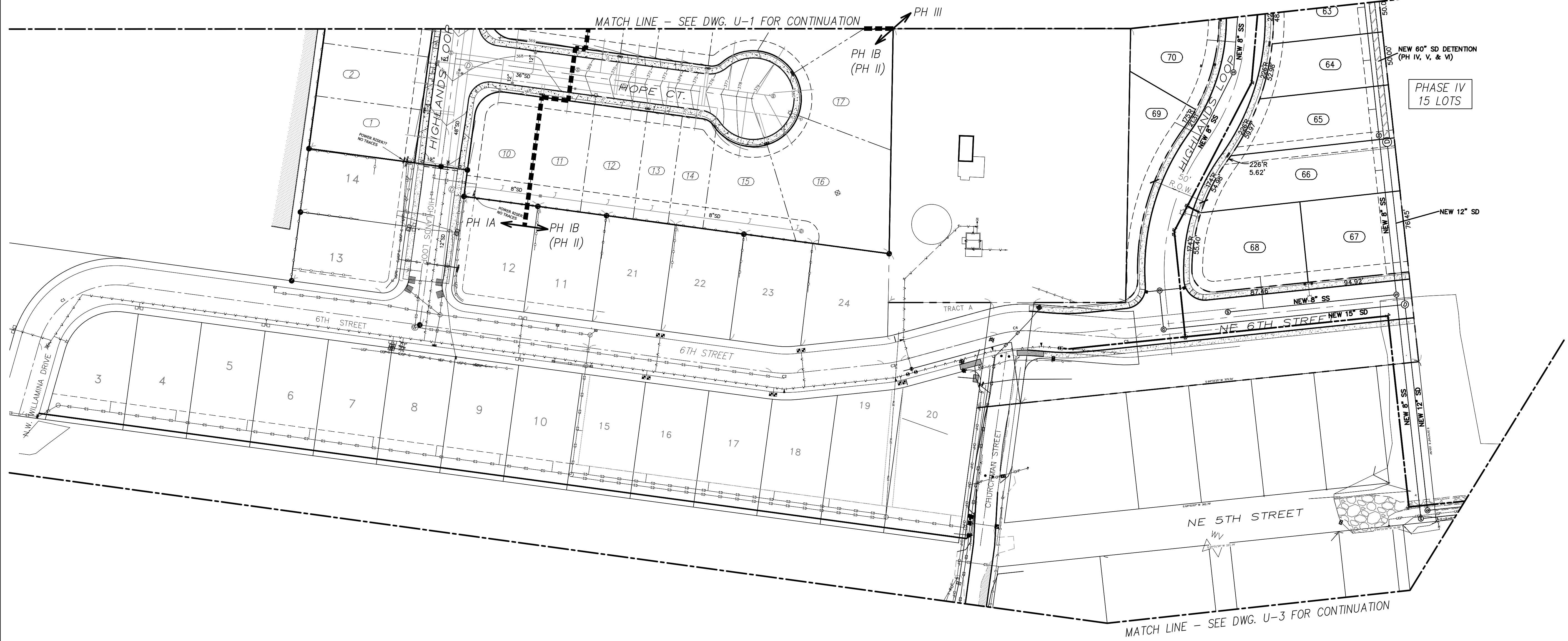
PROFESSIONAL ENGINEER  
 REGISTERED ENGINEER  
 CIVIL  
 STATE OF OREGON  
 LICENSE NO. 16,161  
 STEVEN N. STEVENSON

WESTTECH ENGINEERING, INC.  
 CONSULTING ENGINEERS AND PLANNERS  
 3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302  
 Phone: (503) 585-2474 Fax: (503) 585-3966  
 E-mail: westtech@westtech-eng.com

TIM WENGER  
 RIDGEVIEW SUBDIVISION - PHASES III - VI  
 UTILITY PLAN ( NORTH )

DRAWING  
 U-1  
 JOB NUMBER  
 3154.2000

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NO.	DATE	DESCRIPTION	BY
1	04/2022		

VERIFIED SCALE  
 BAR IS ONE INCH ON ORIGINAL DRAWING  
 IF NOT ONE INCH ON SCALES ACCORDINGLY

DATE: 04/2022

DSN. SW  
 DRN. RS  
 CKD. SW

REGISTERED PROFESSIONAL ENGINEER  
**REVIEW**  
 STEVEN W. STEVENSON  
 CIVIL ENGINEER  
 LICENSE NO. 16  
 EXPIRES 6/30/2024

**WE**  
**WESTTECH ENGINEERING, INC.**  
 CONSULTING ENGINEERS AND PLANNERS

3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302  
 Phone: (503) 585-2474 Fax: (503) 585-3966  
 E-mail: westtech@westtech-eng.com

TIM WENGER  
 RIDGEVIEW SUBDIVISION - PHASES III - VI  
 UTILITY PLAN (CENTRAL)

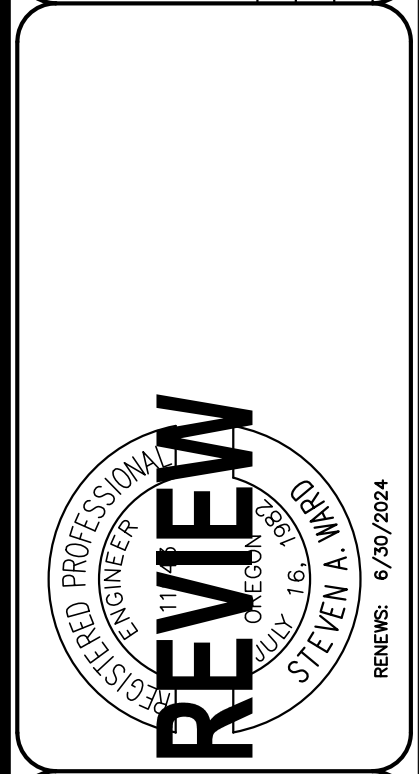
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 JOB NUMBER  
**3154.2000**



NO.	DATE	DESCRIPTION	BY
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VERIFY SCALE  
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DSN. SW  
 DRN. RS  
 CKD. SW  
 DATE: 04/2022



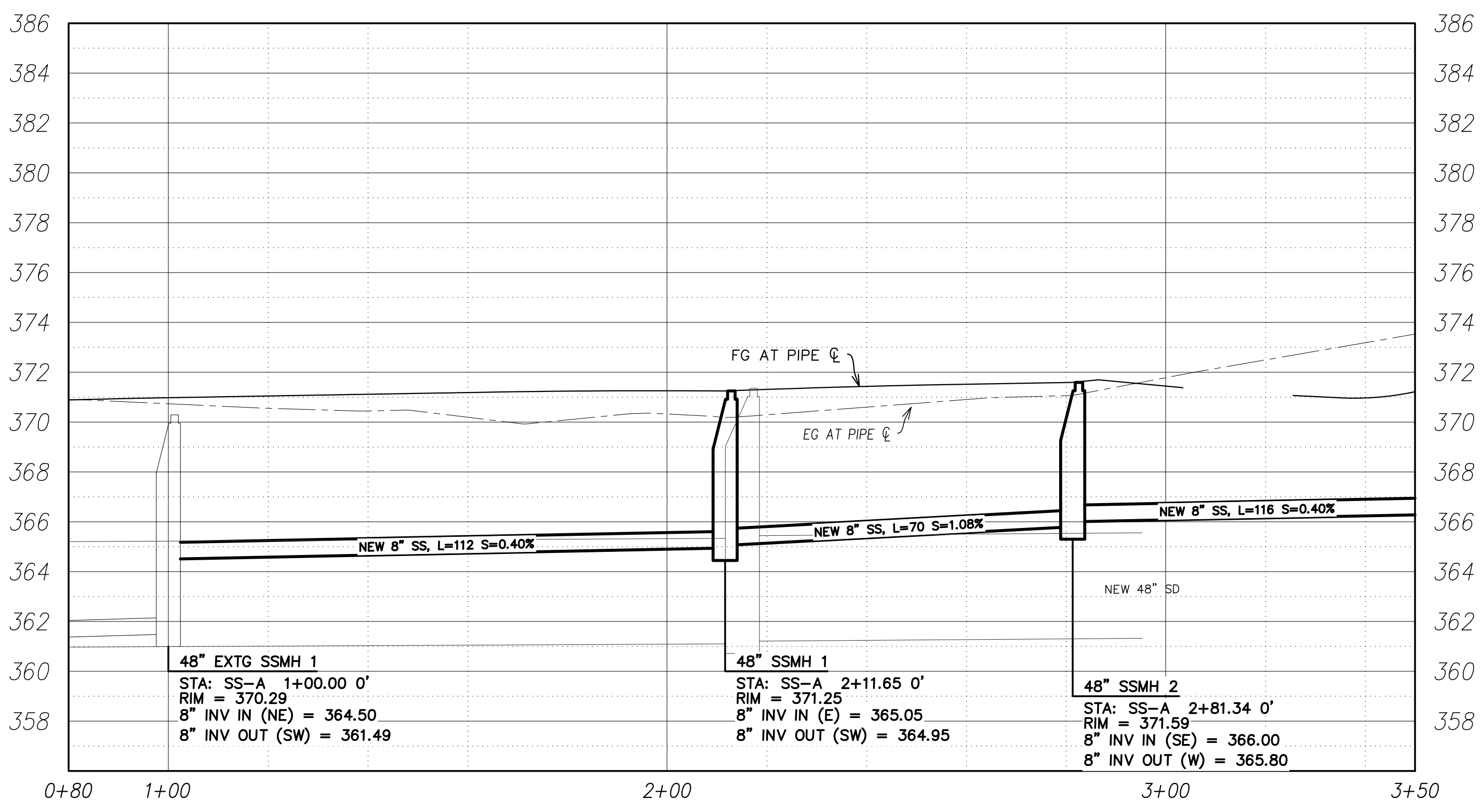
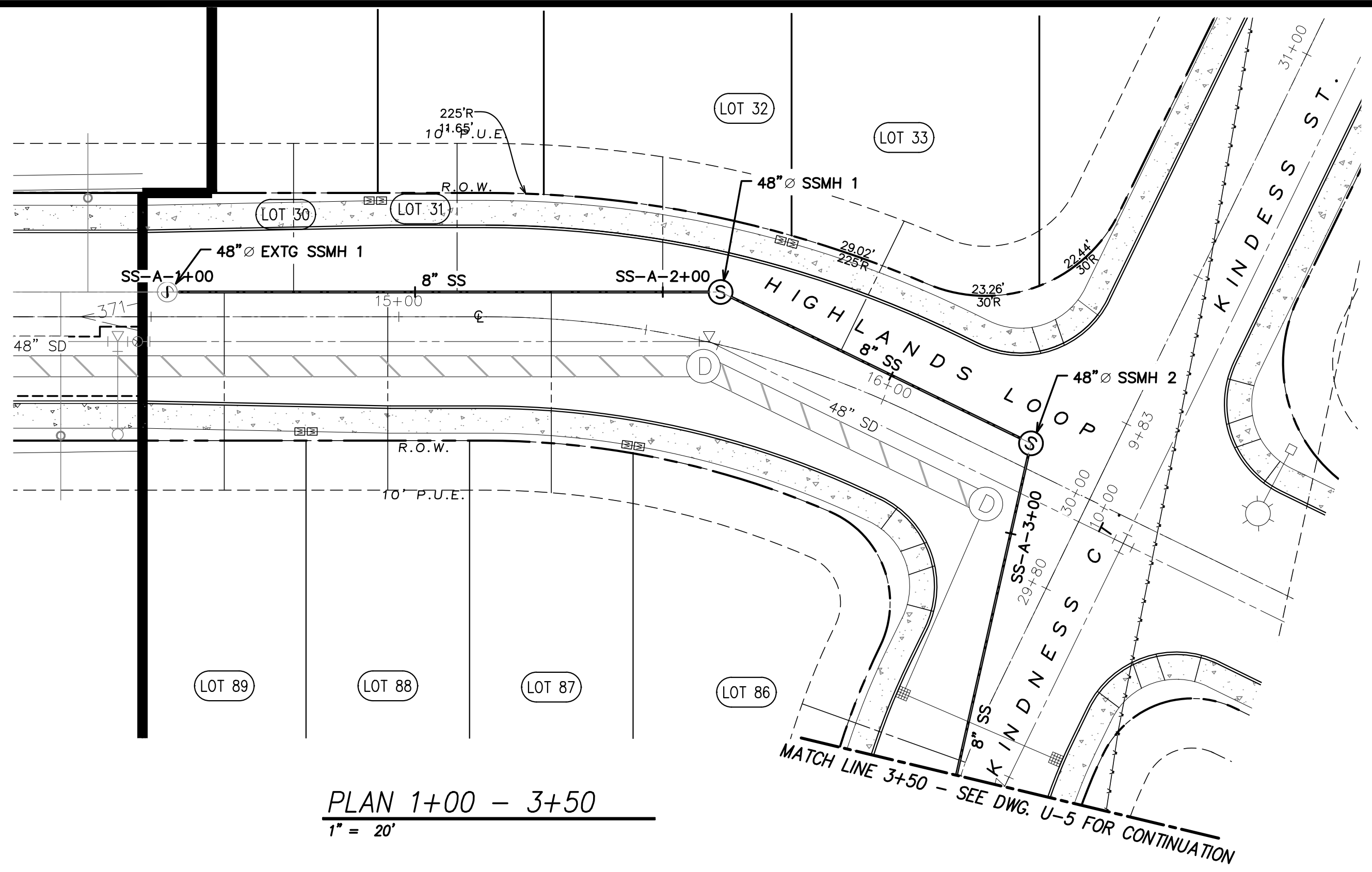
**WE**  
**WESTTECH ENGINEERING, INC.**  
 CONSULTING ENGINEERS AND PLANNERS

3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302  
 Phone: (503) 585-2474 Fax: (503) 585-3966  
 E-mail: westtech@westtech-eng.com

TIM WENGER  
 RIDGEVIEW SUBDIVISION - PHASES III - VI  
 UTILITY PLAN (SOUTH)

DRAWING  
**U-3**  
 JOB NUMBER  
 3154.2000



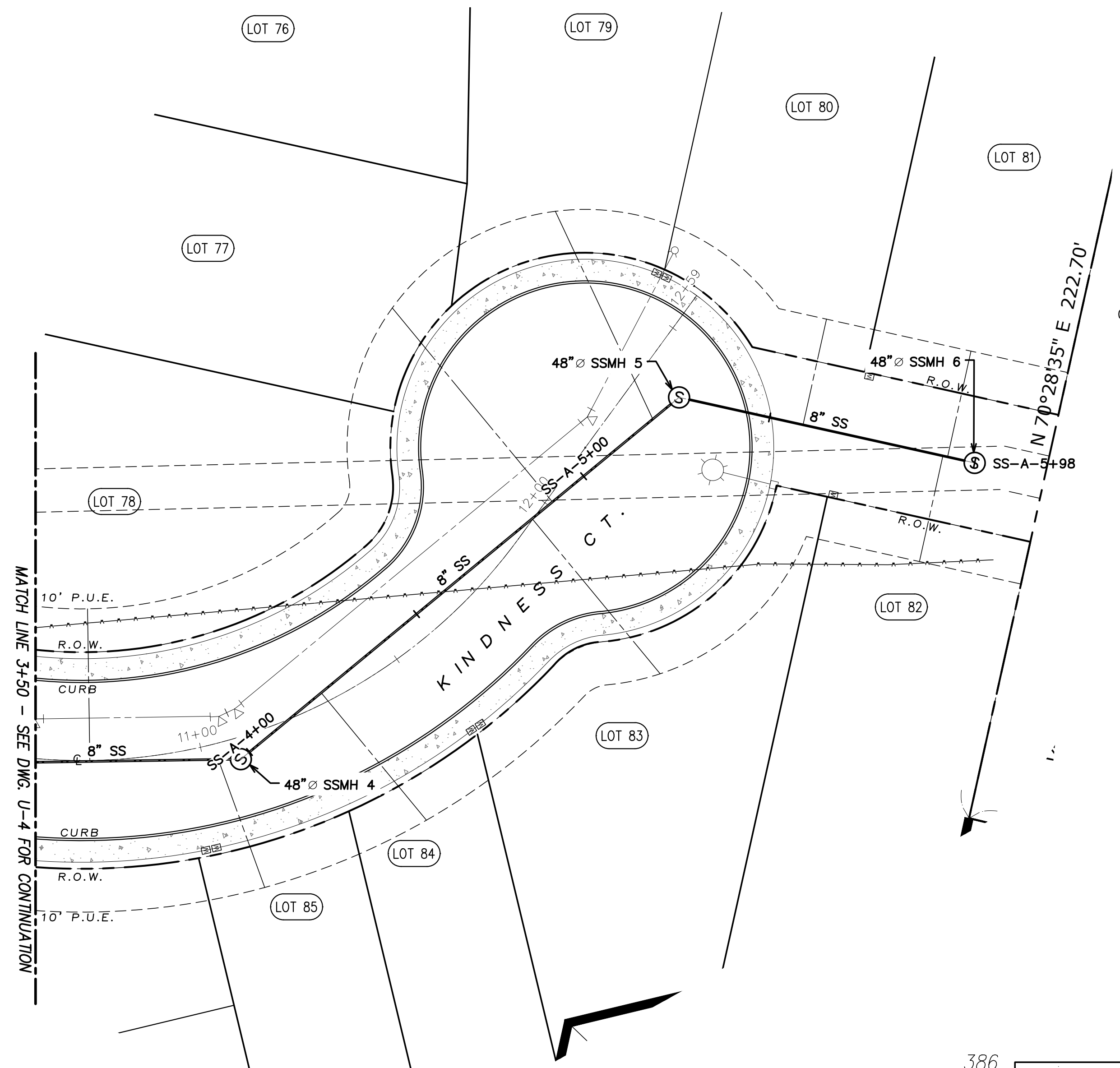


**PROFILE 1+00 - 3+50**  
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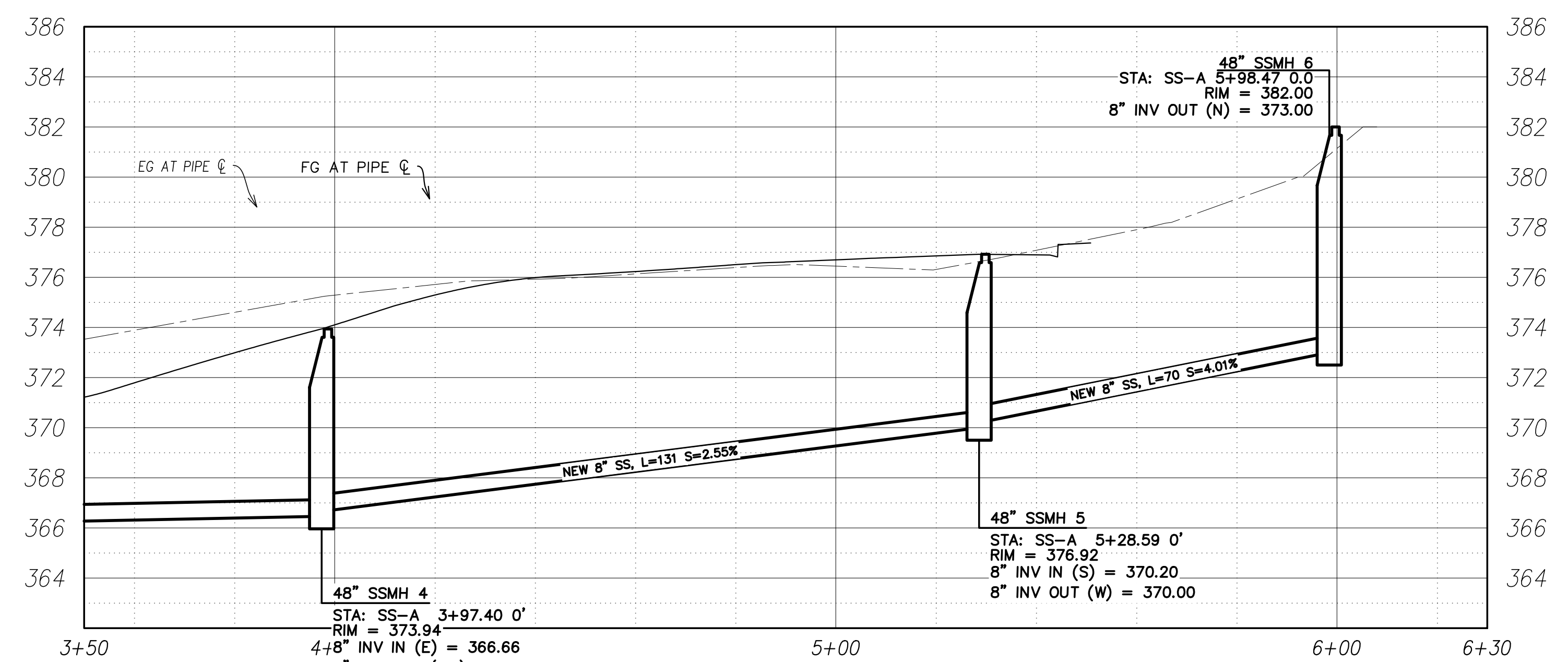
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	<b>REVIEW</b> <small>REGISTERED PROFESSIONAL ENGINEER        STATE OF OREGON        NO. 16        STEVEN N. GALT        RENEWS: 6/20/2024</small>								
	<b>WESTECH ENGINEERING, INC.</b> <small>CONSULTING ENGINEERS AND PLANNERS</small> 3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302 Phone: (503) 565-2474 Fax: (503) 565-3966 E-mail: westech@westech-eng.com								
TIM WENGER RIDGEVIEW SUBDIVISION - PHASES III - VI SS-A LINE - PLAN & PROFILE STA. 1+00 - 3+50	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> <th>BY</th> </tr> </thead> <tbody> <tr> <td>1</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	NO.	DATE	DESCRIPTION	BY	1			
NO.	DATE	DESCRIPTION	BY						
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<b>DRAWING U-4</b>									
<b>JOB NUMBER 13154.2000</b>									

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PLAN 3+50 - END  
 1" = 20'



PROFILE 3+50 - END  
 H: 1" = 20' V: 1" = 4'

TIM WENGER  
 RIDGEVIEW SUBDIVISION - PHASES III - VI  
 SS-A LINE - PLAN & PROFILE  
 STA. 3+50 - END

DRAWING  
 U-5  
 JOB NUMBER  
 3154.2000

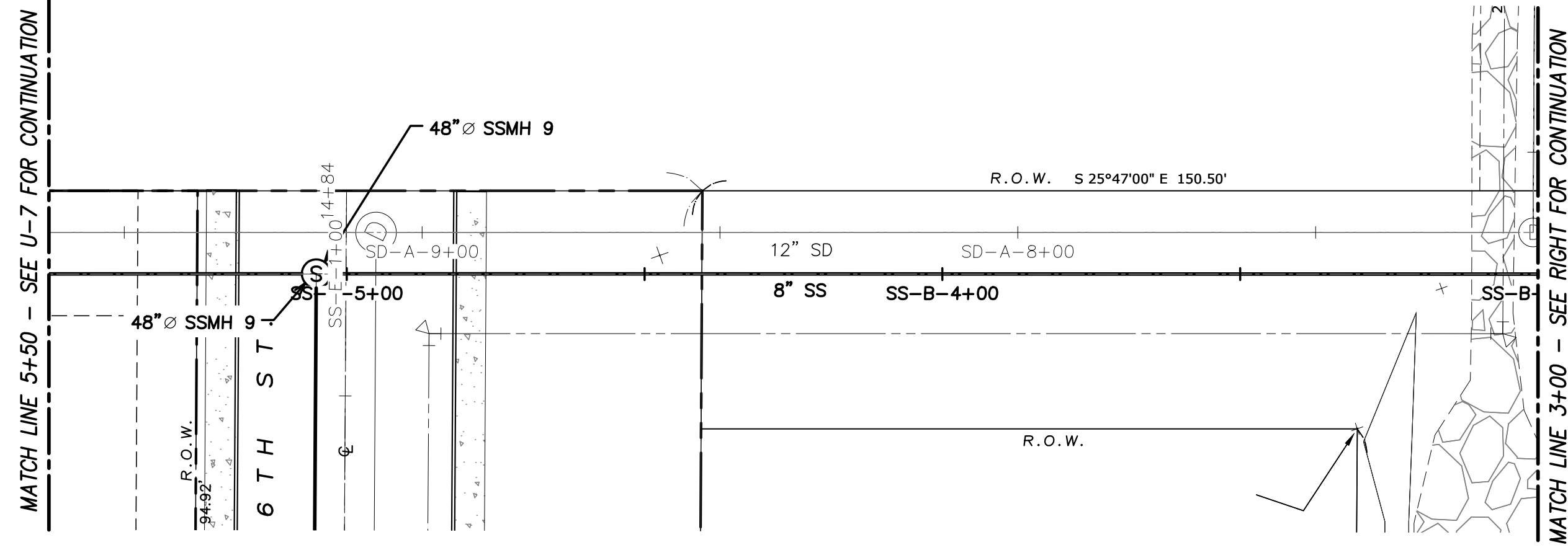
WESTTECH ENGINEERING, INC.  
 CONSULTING ENGINEERS AND PLANNERS  
 3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302  
 Phone: (503) 585-2474 Fax: (503) 585-3966  
 E-mail: westtech@westtech-eng.com

REGISTERED PROFESSIONAL ENGINEER  
 STATE OF OREGON  
 No. 16,387  
 STEVEN H. JENKINS  
 REVIEW

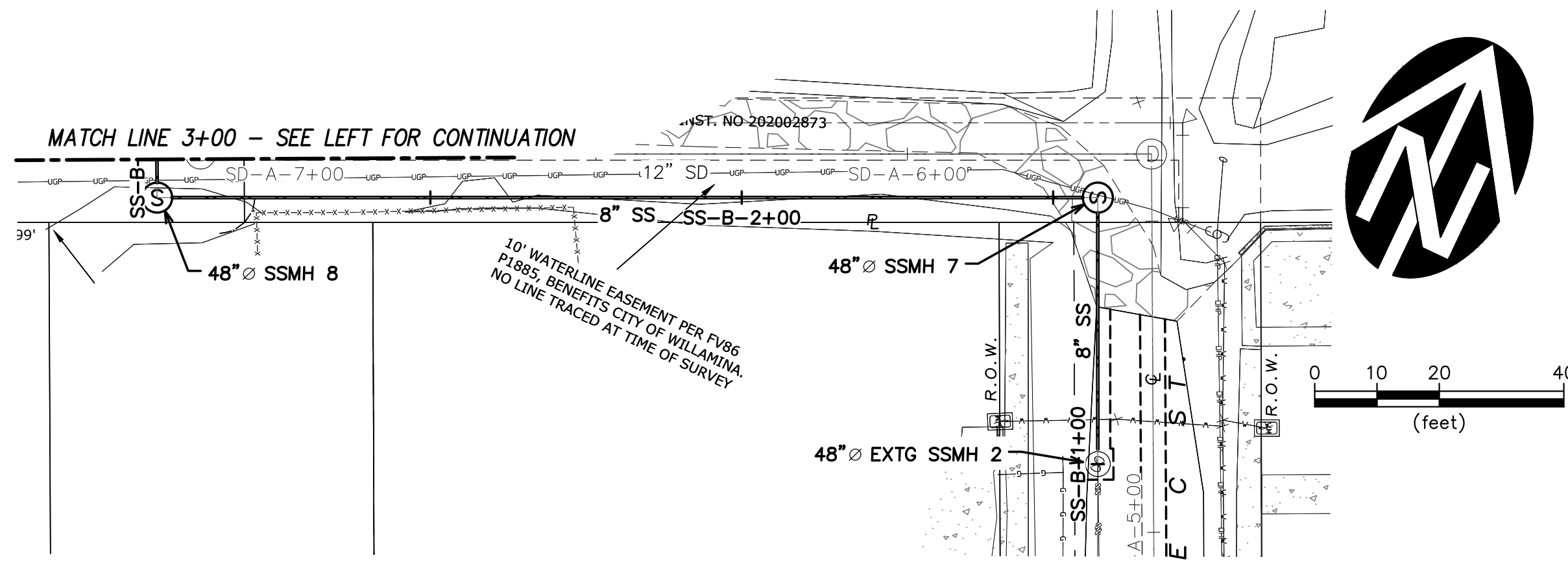
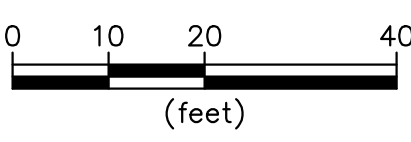
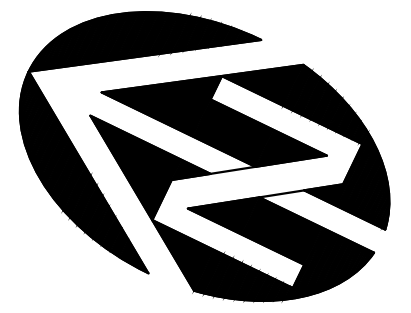
VERIFY SCALE  
 BAR IS ONE INCH ON ORIGINAL DRAWING  
 IF NOT ONE INCH ON SCALES ACCORDINGLY

NO.	DATE	DESCRIPTION	BY
1	04/2023		

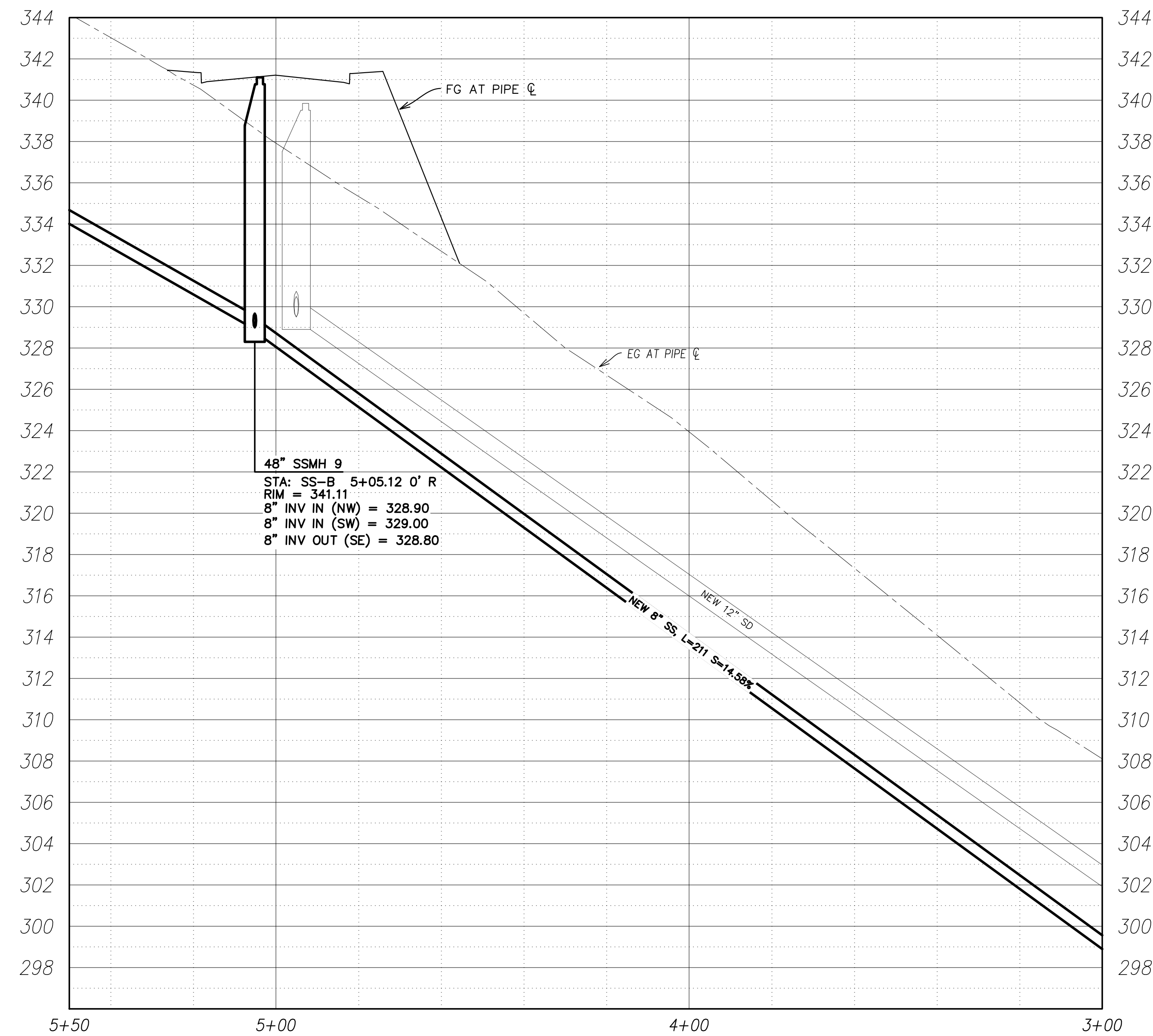
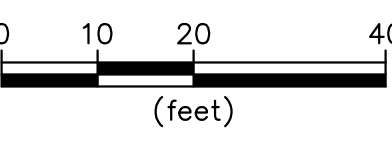
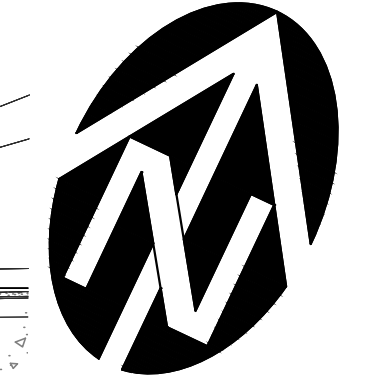
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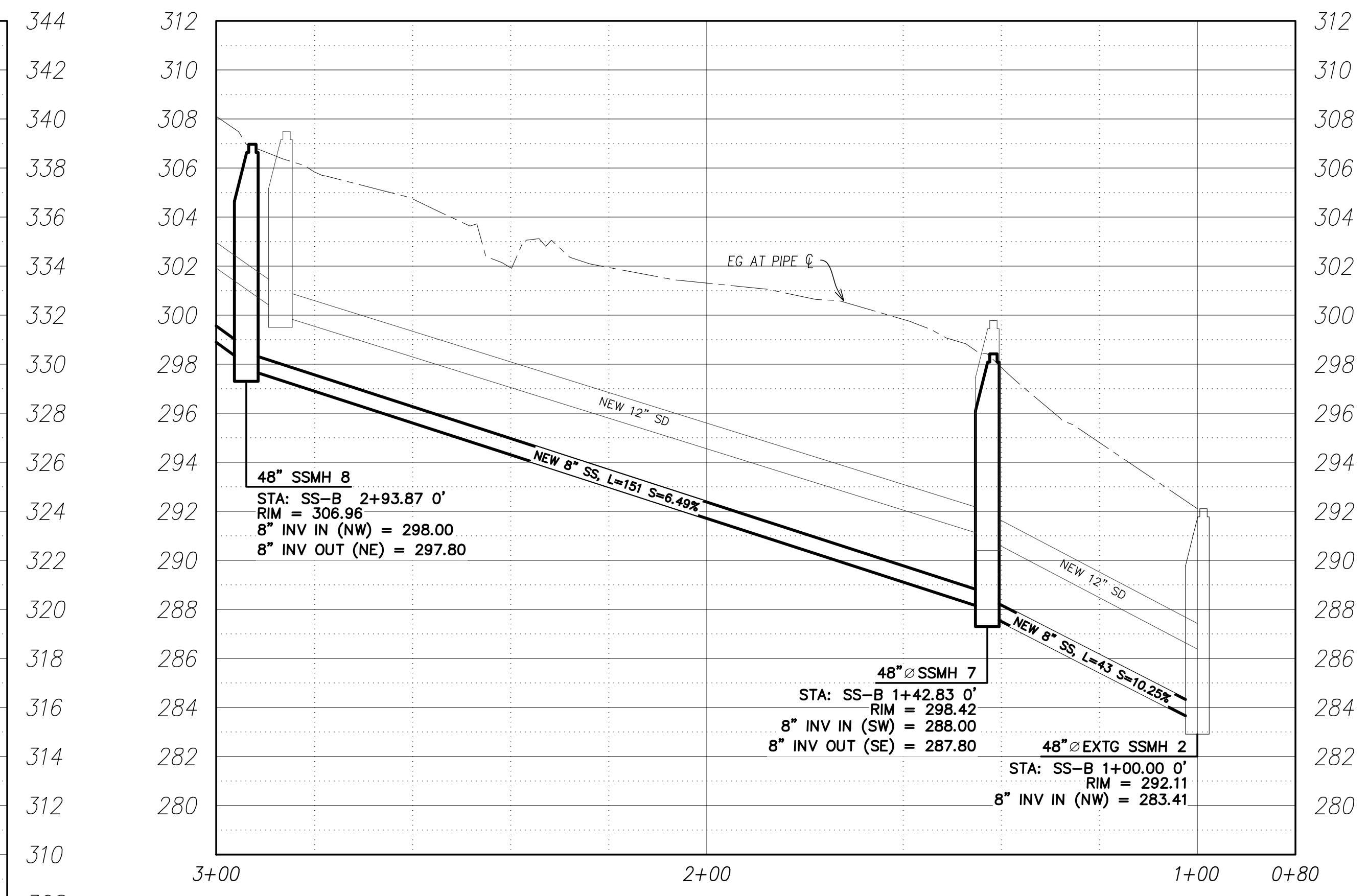
**PLAN 3+00 - 5+50**  
1" = 20'



**PLAN 1+00 - 3+00**  
1" = 20'

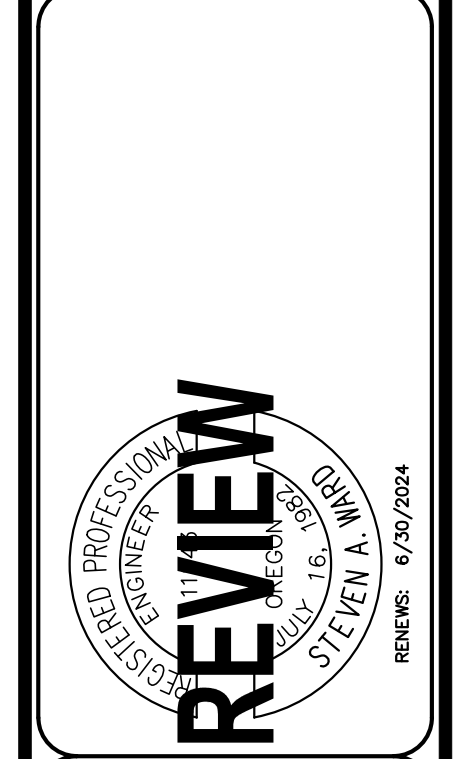


**PROFILE 3+00 - 5+50**  
H: 1" = 20' V: 1" = 4'



**PROFILE 1+00 - 3+00**  
H: 1" = 20' V: 1" = 4'

NO.	DATE	DESCRIPTION	BY
1	04/2023		



**WESTTECH ENGINEERING, INC.**  
CONSULTING ENGINEERS AND PLANNERS

**WE**

3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302  
Phone: (503) 565-2474 Fax: (503) 565-3966  
E-mail: westtech@westtech-eng.com

TIM WENGER  
RIDGEVIEW SUBDIVISION - PHASES III - VI

**SS-B LINE - PLAN & PROFILE**  
STA. 1+00 - 5+50

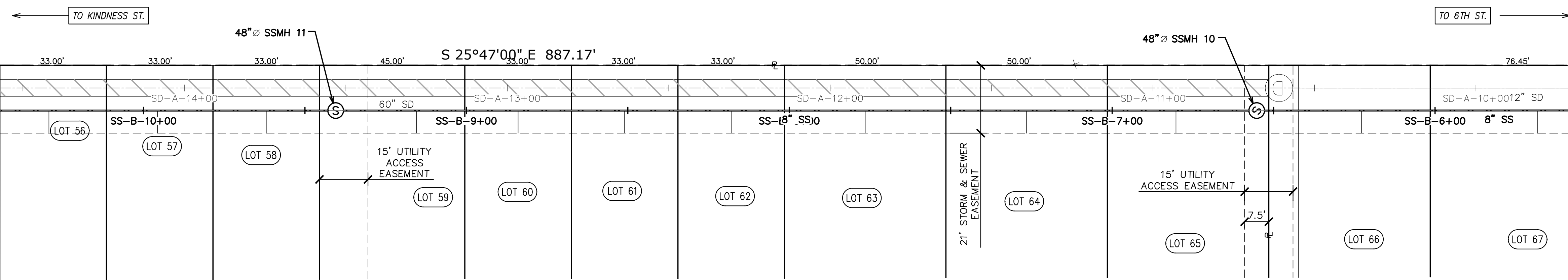
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JOB NUMBER  
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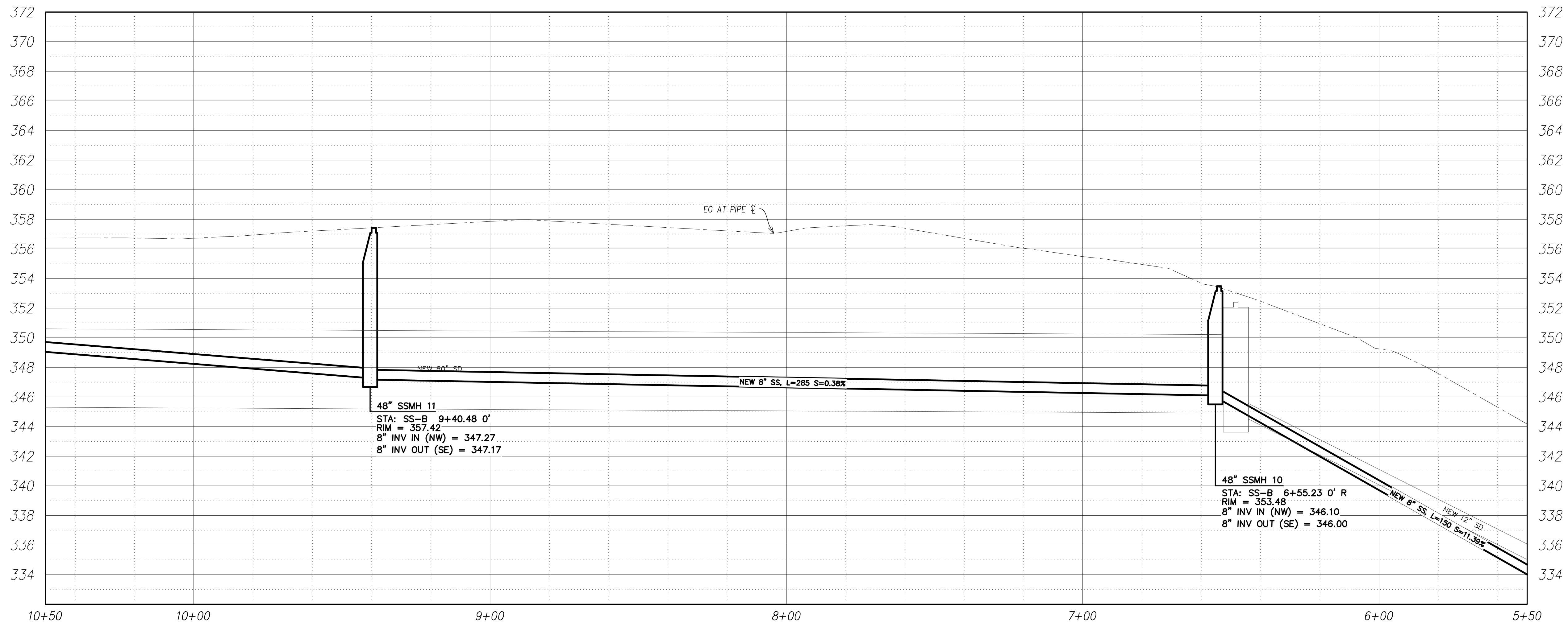
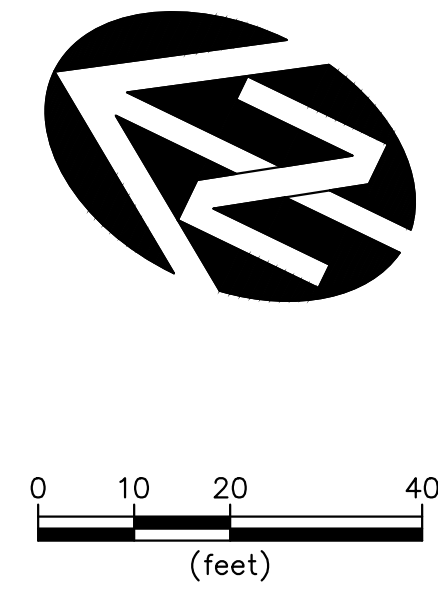
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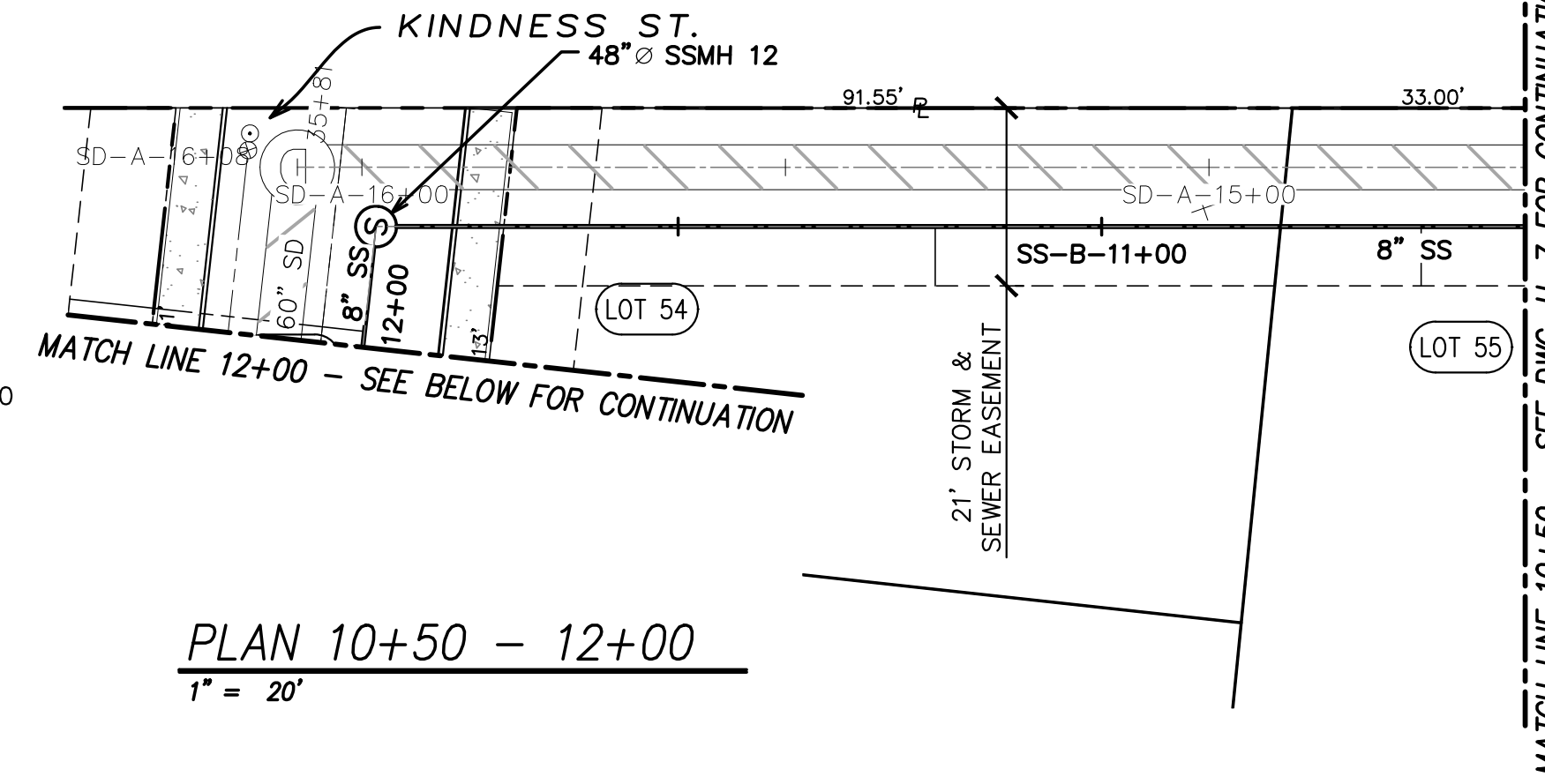
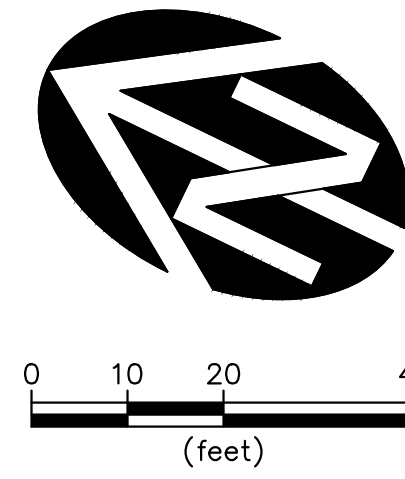


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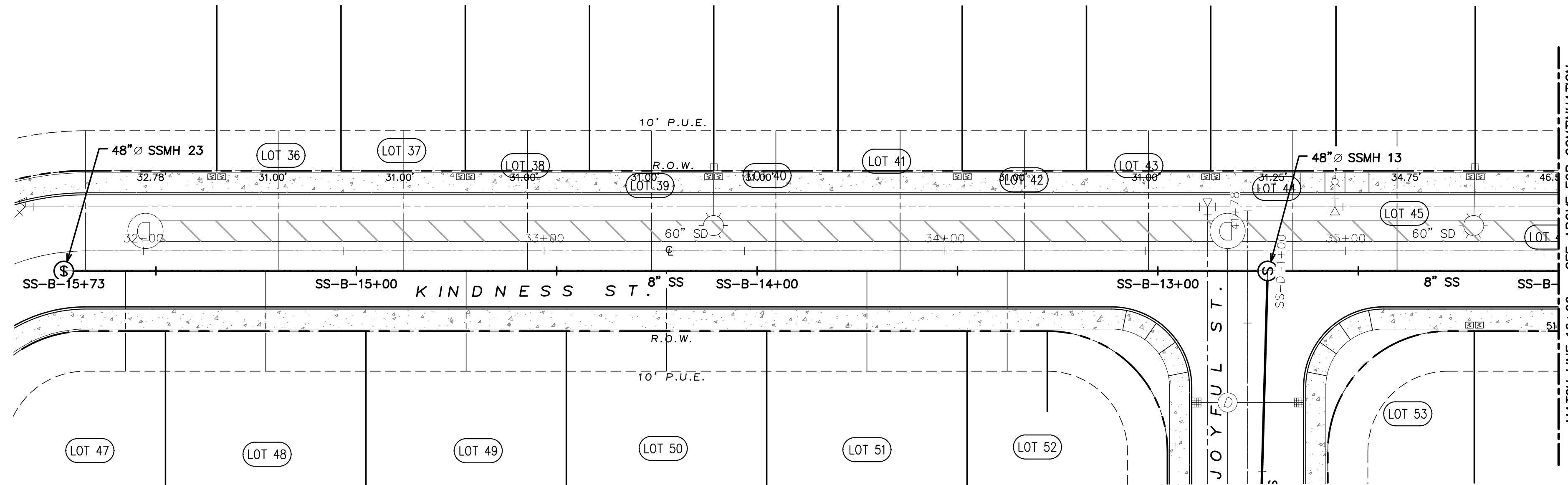
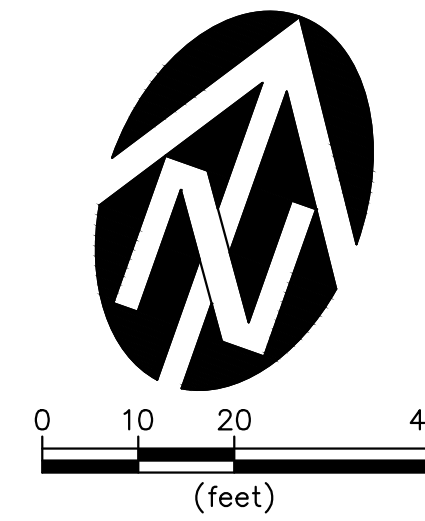
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	<b>REVIEW</b> <small>REGISTERED PROFESSIONAL ENGINEER          CIVIL          STEVEN N. KELLY          No. 16, State of Oregon</small>
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<b>TIM WENGER</b> RIDGEVIEW SUBDIVISION - PHASES III - VI SS-B LINE - PLAN & PROFILE STA. 5+50 - 10+50	
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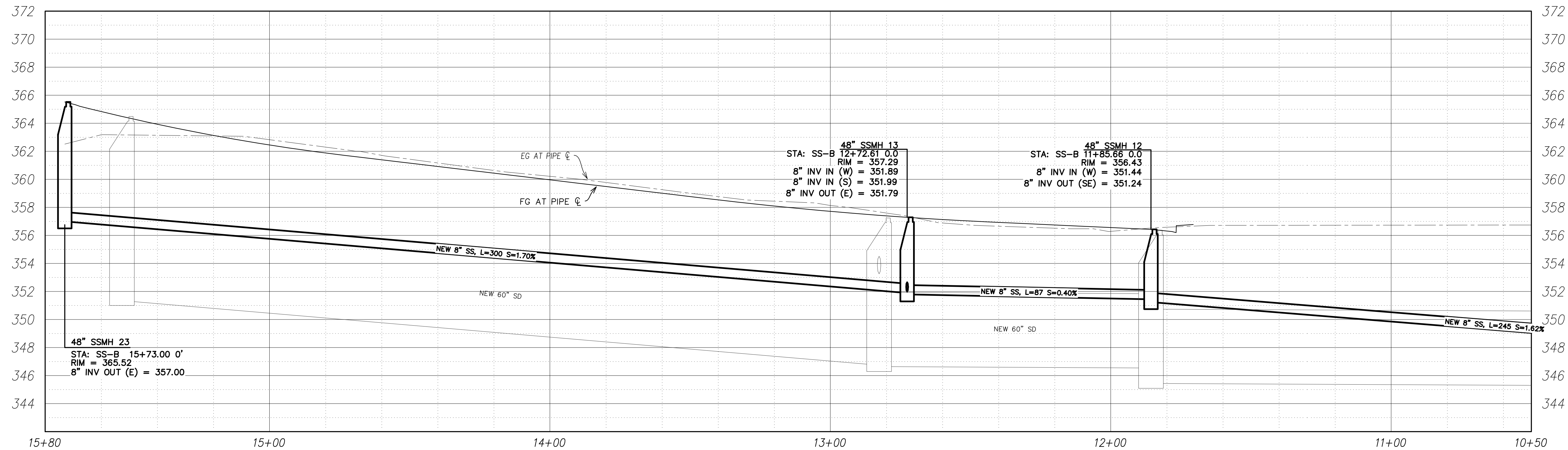
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PLAN 12+00 - END  
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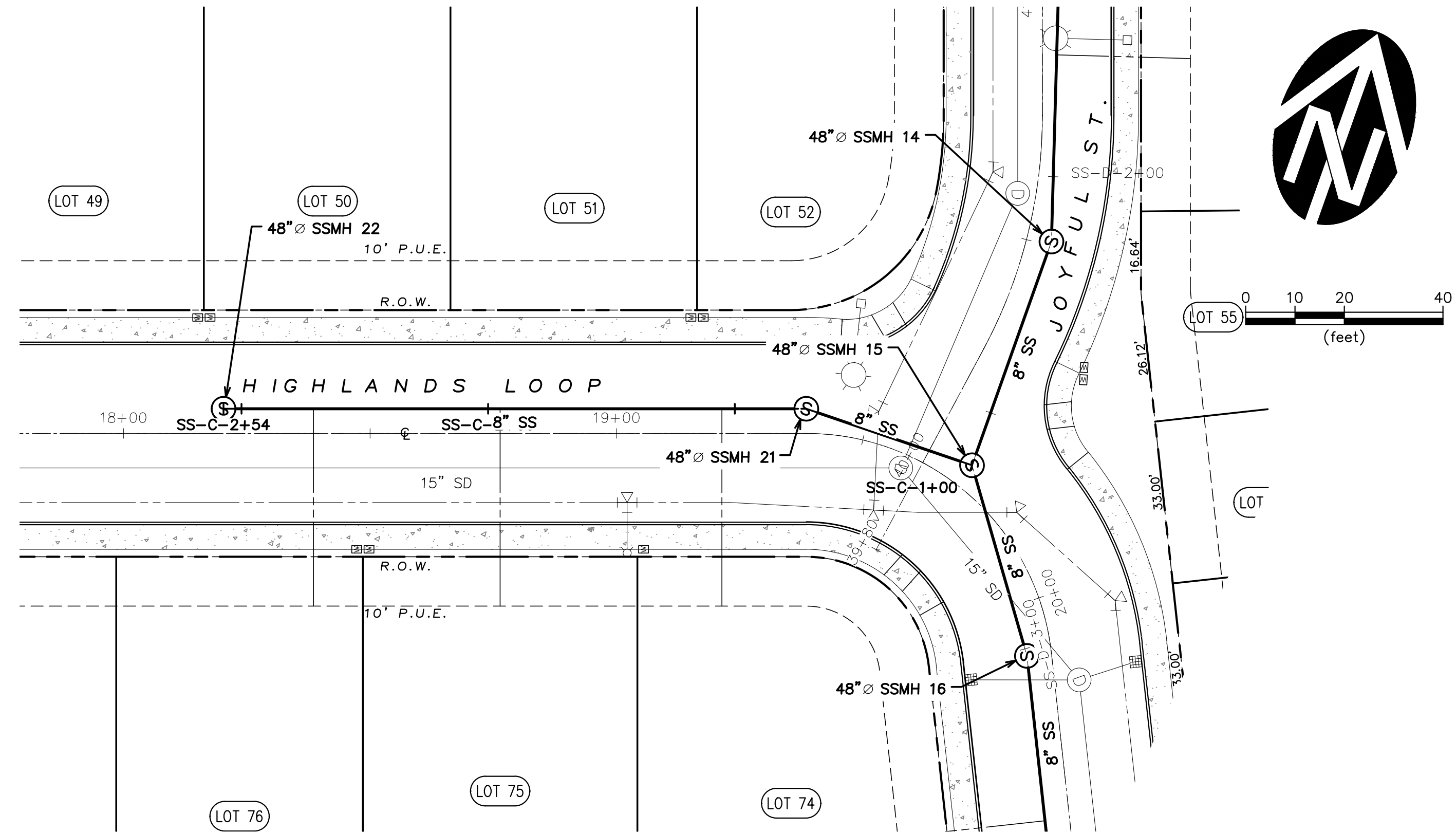
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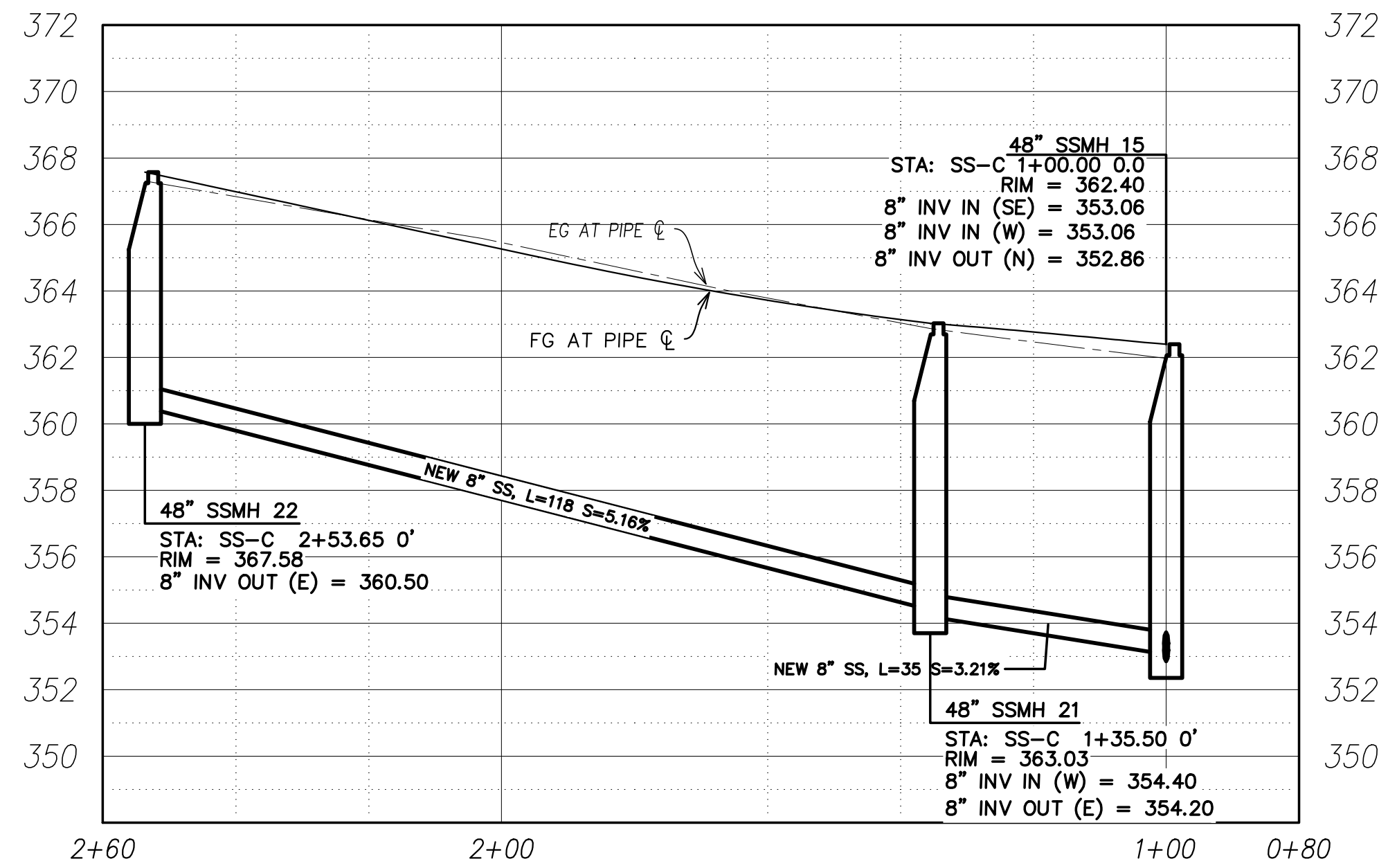
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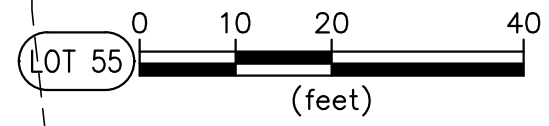
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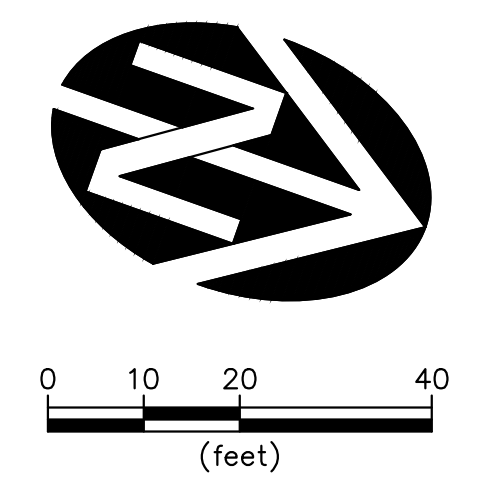
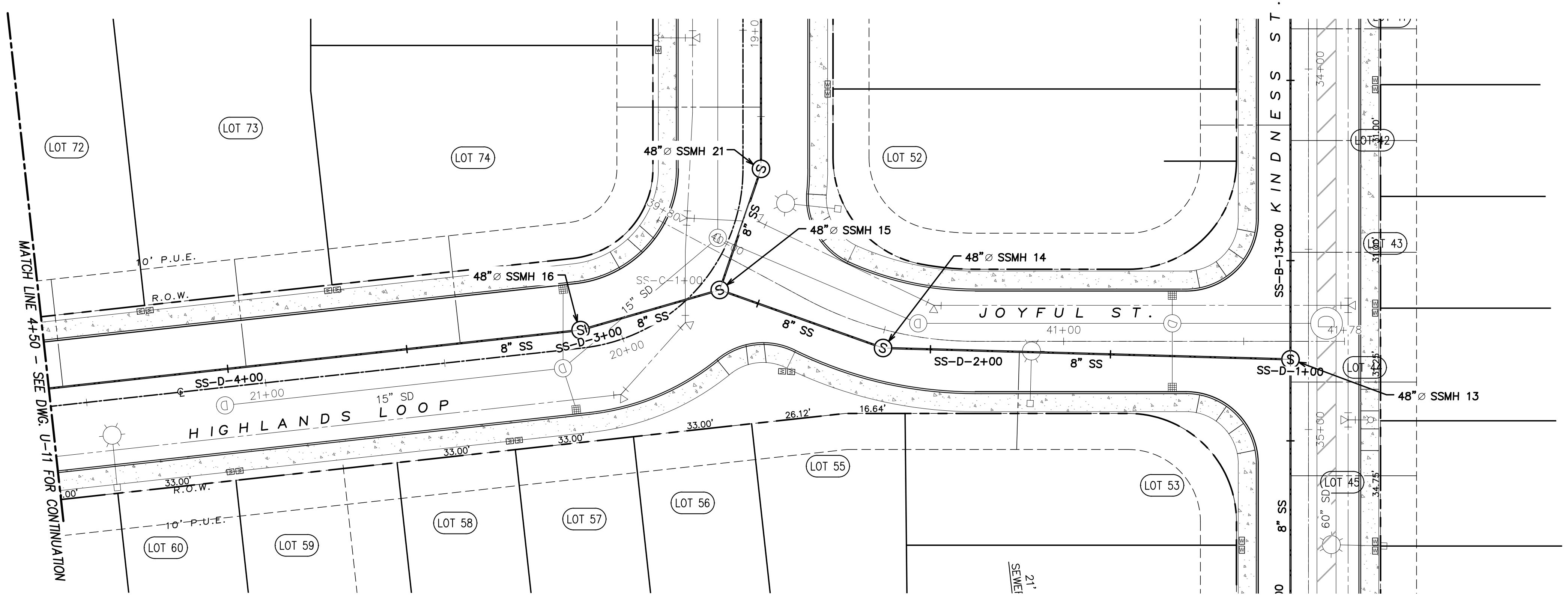
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**REVIEW**  
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 OREGON  
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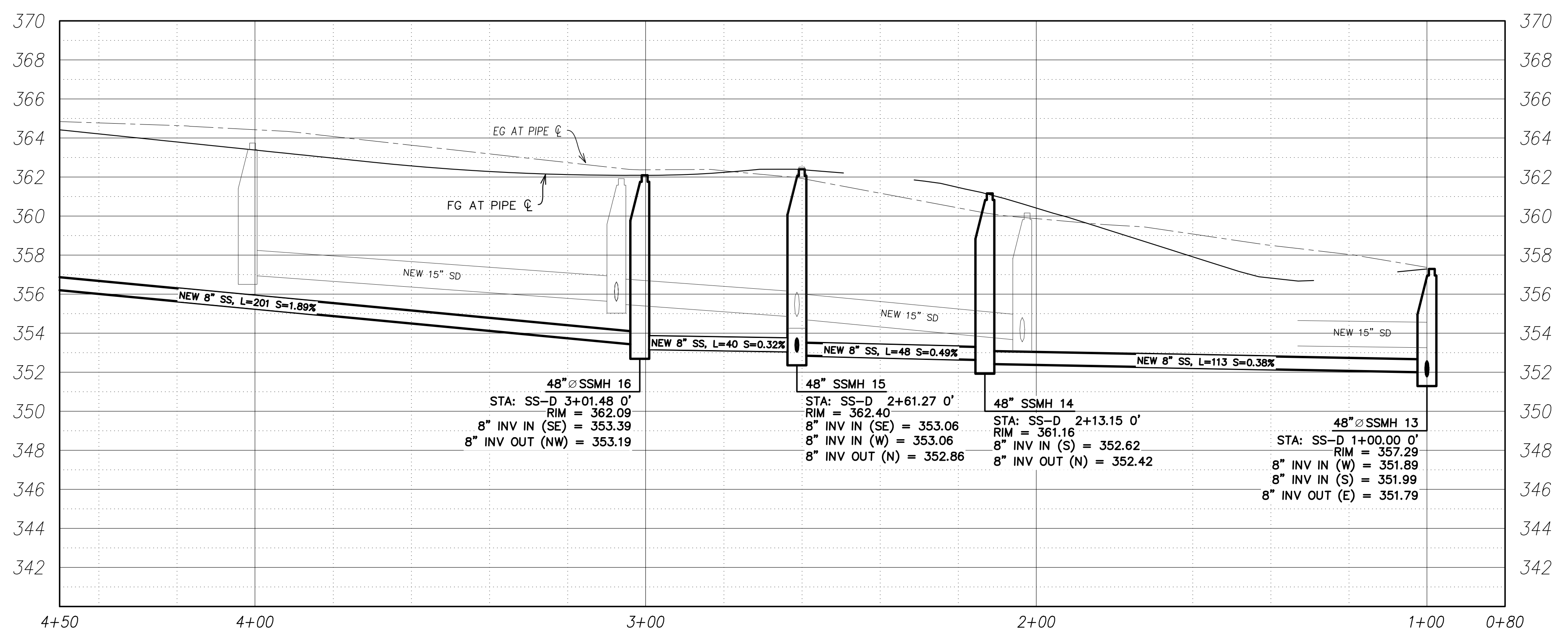
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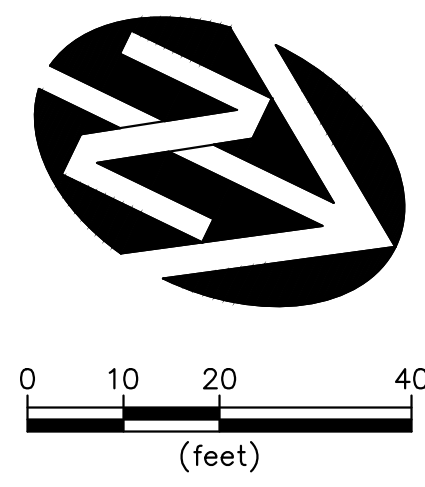
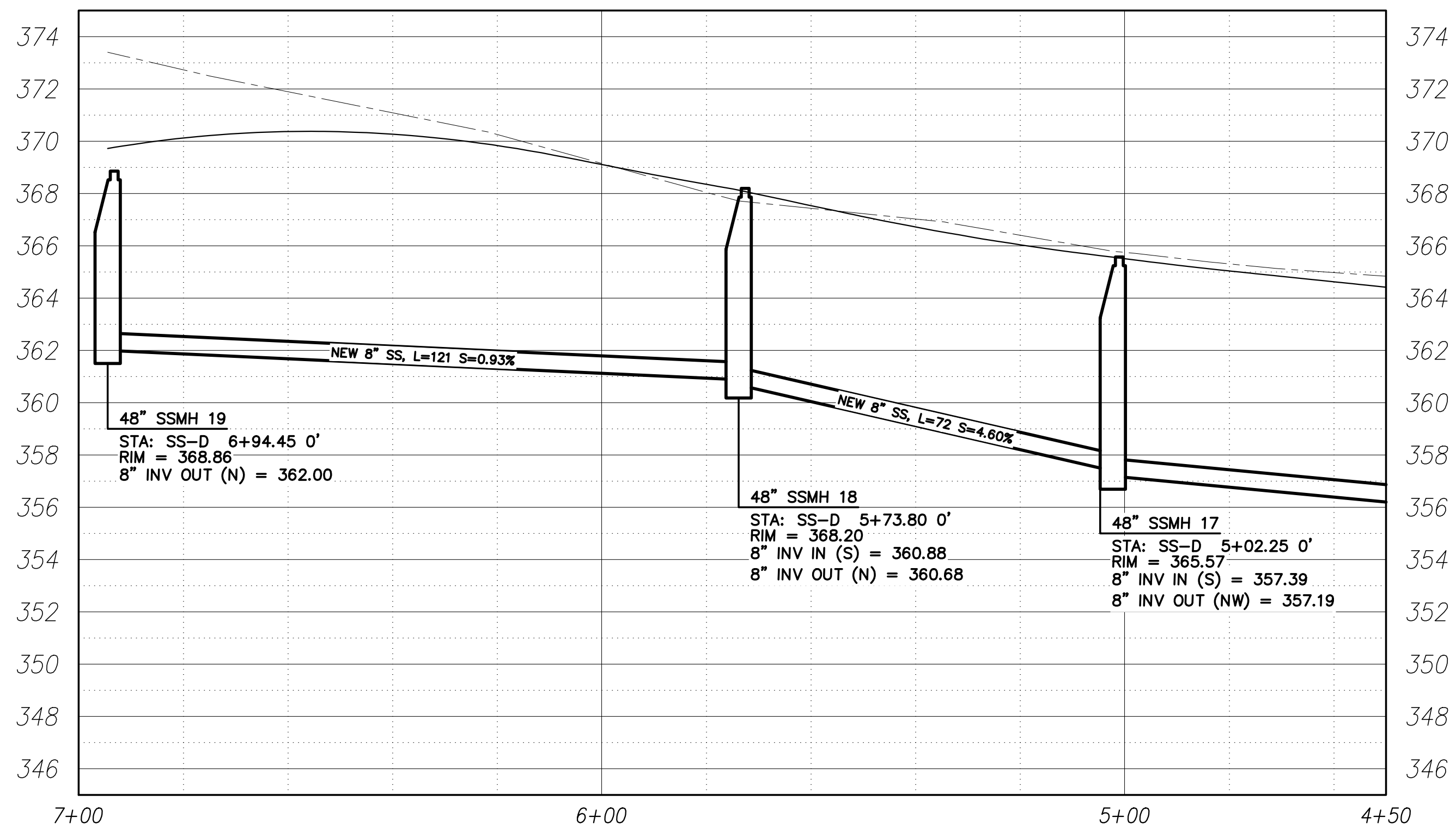
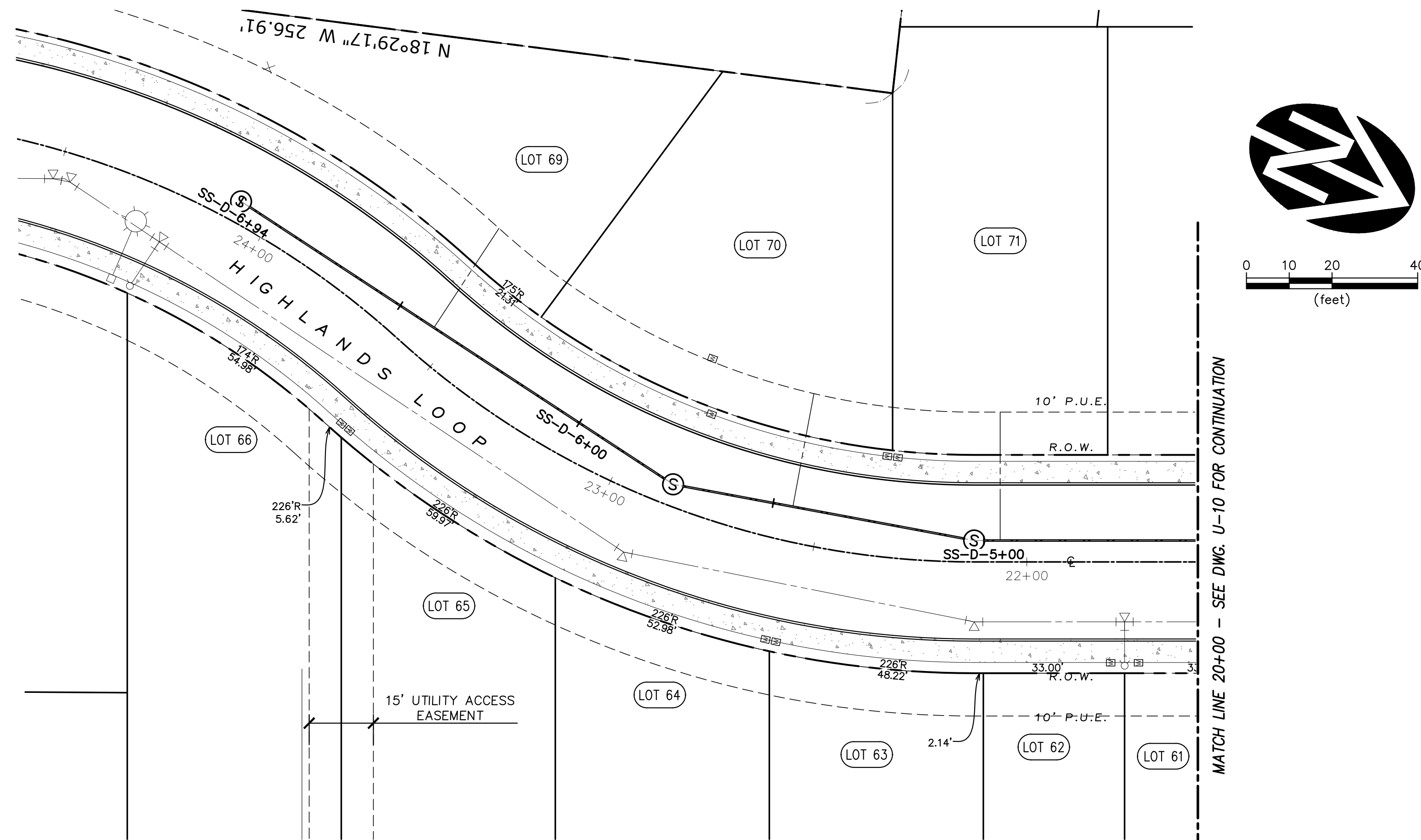


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<p><b>WESTECH ENGINEERING, INC.</b> CONSULTING ENGINEERS AND PLANNERS</p> <p>3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302 Phone: (503) 565-2474 Fax: (503) 565-3966 E-mail: westech@westech-eng.com</p>									
<p>TIM WENGER</p> <p>RIDGEVIEW SUBDIVISION - PHASES III - VI</p> <p>SS-D LINE - PLAN &amp; PROFILE</p> <p>STA. 1+00 - 4+50</p>									
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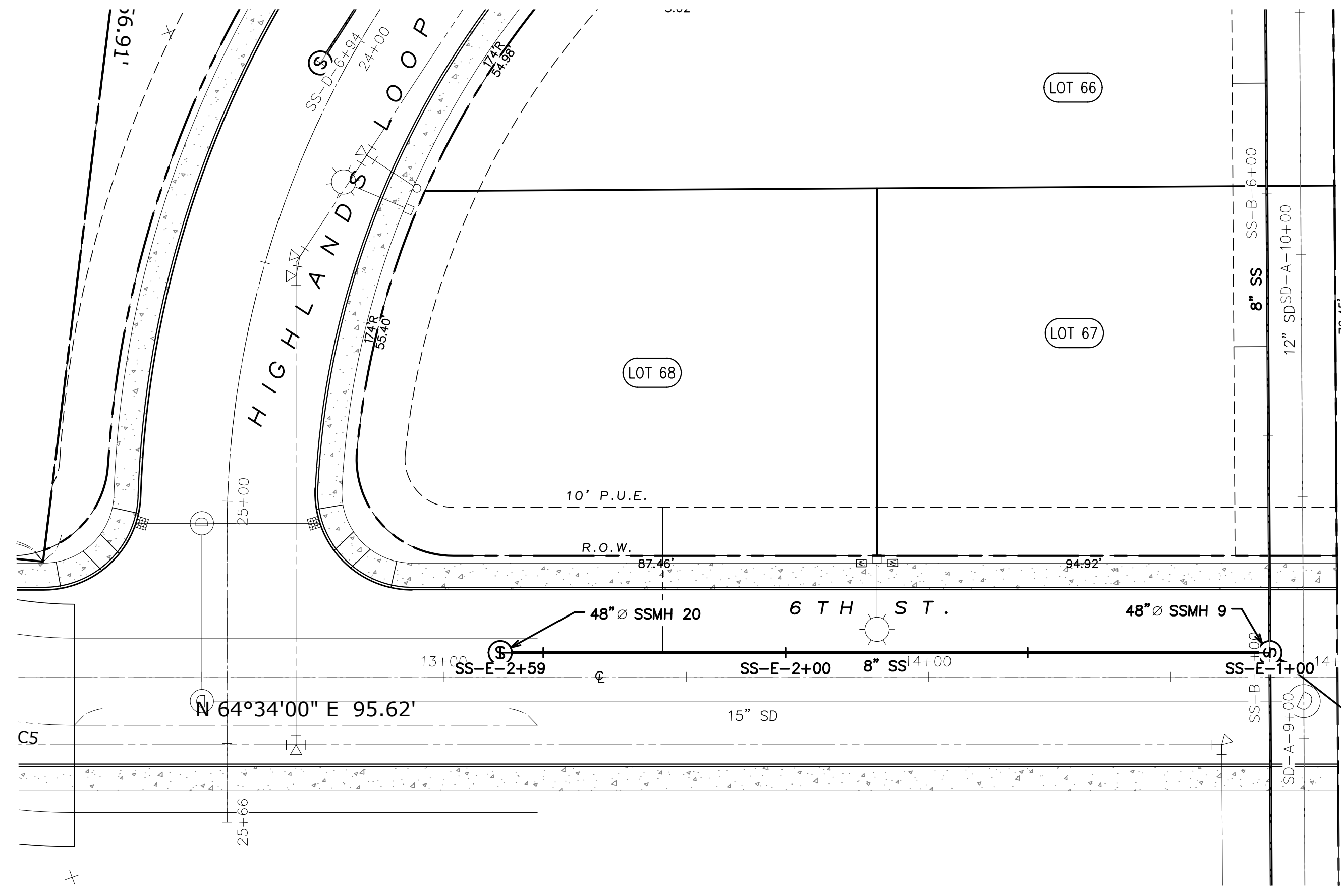
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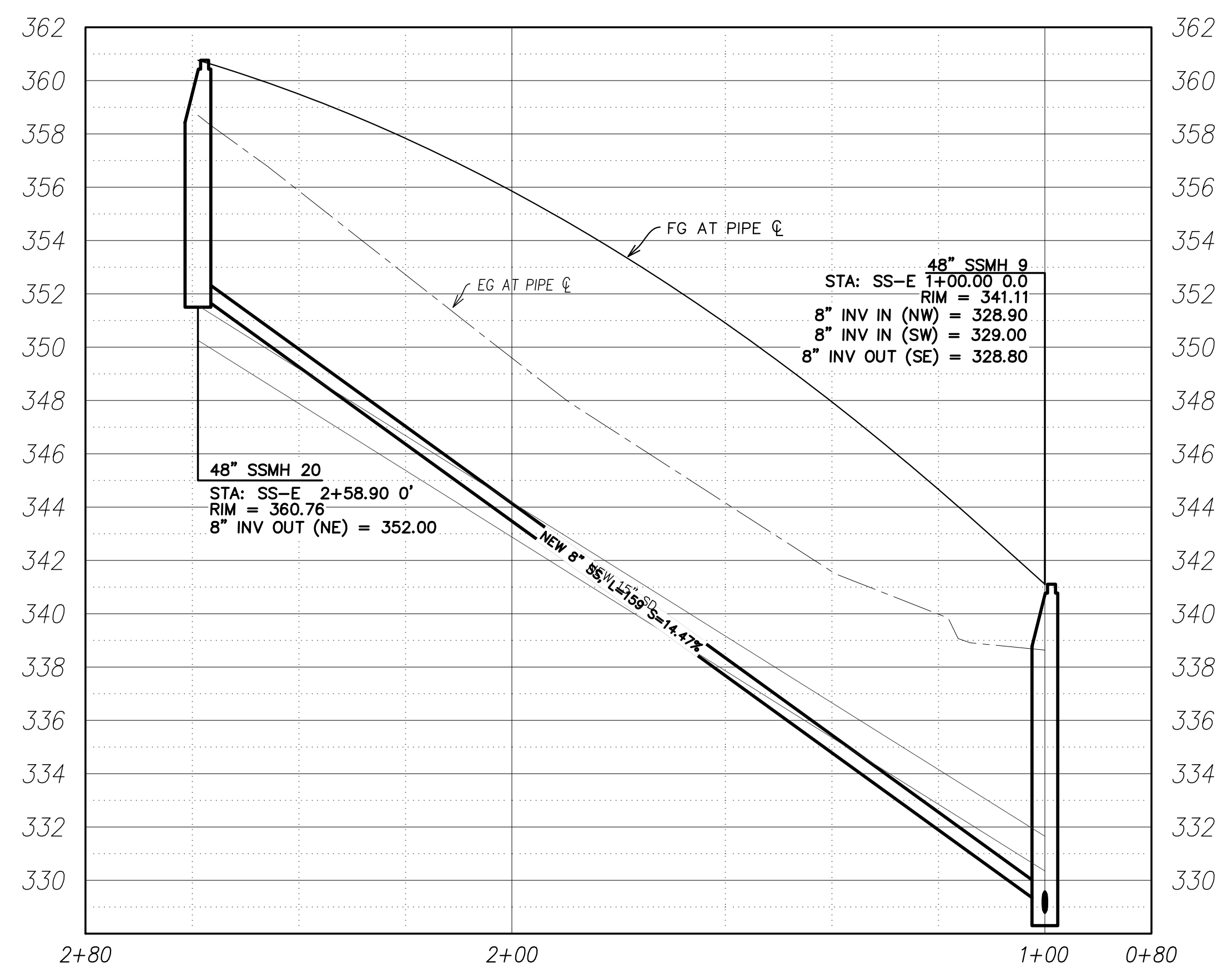
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<b>TIM WENGER</b> RIDGEVIEW SUBDIVISION - PHASES III - VI SS-D LINE - PLAN & PROFILE STA. 4+50 - END	VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON SCALES ACCURACELY 0 1"
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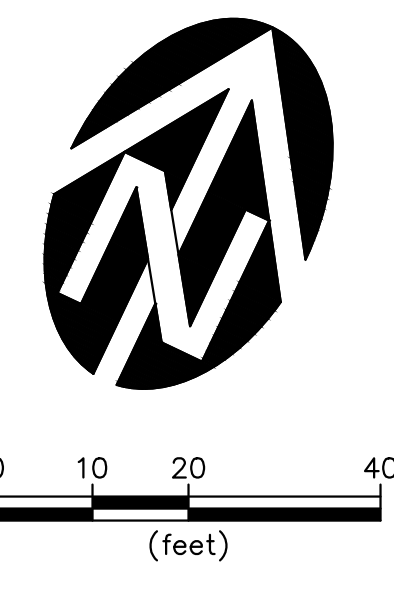
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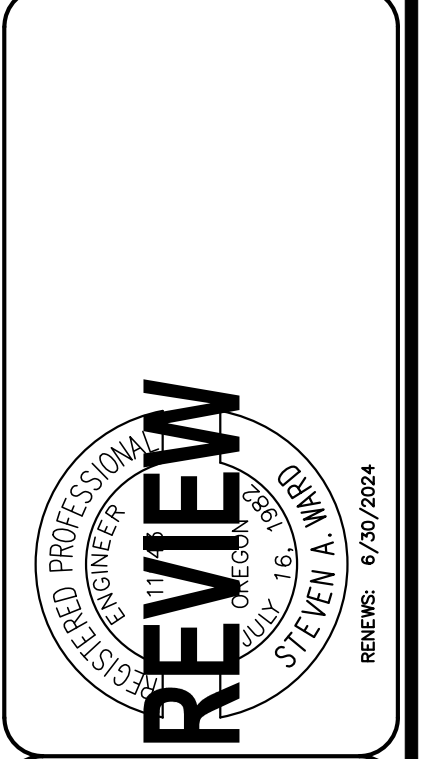
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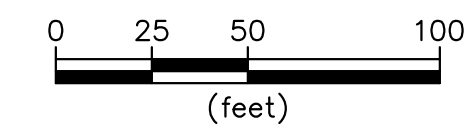
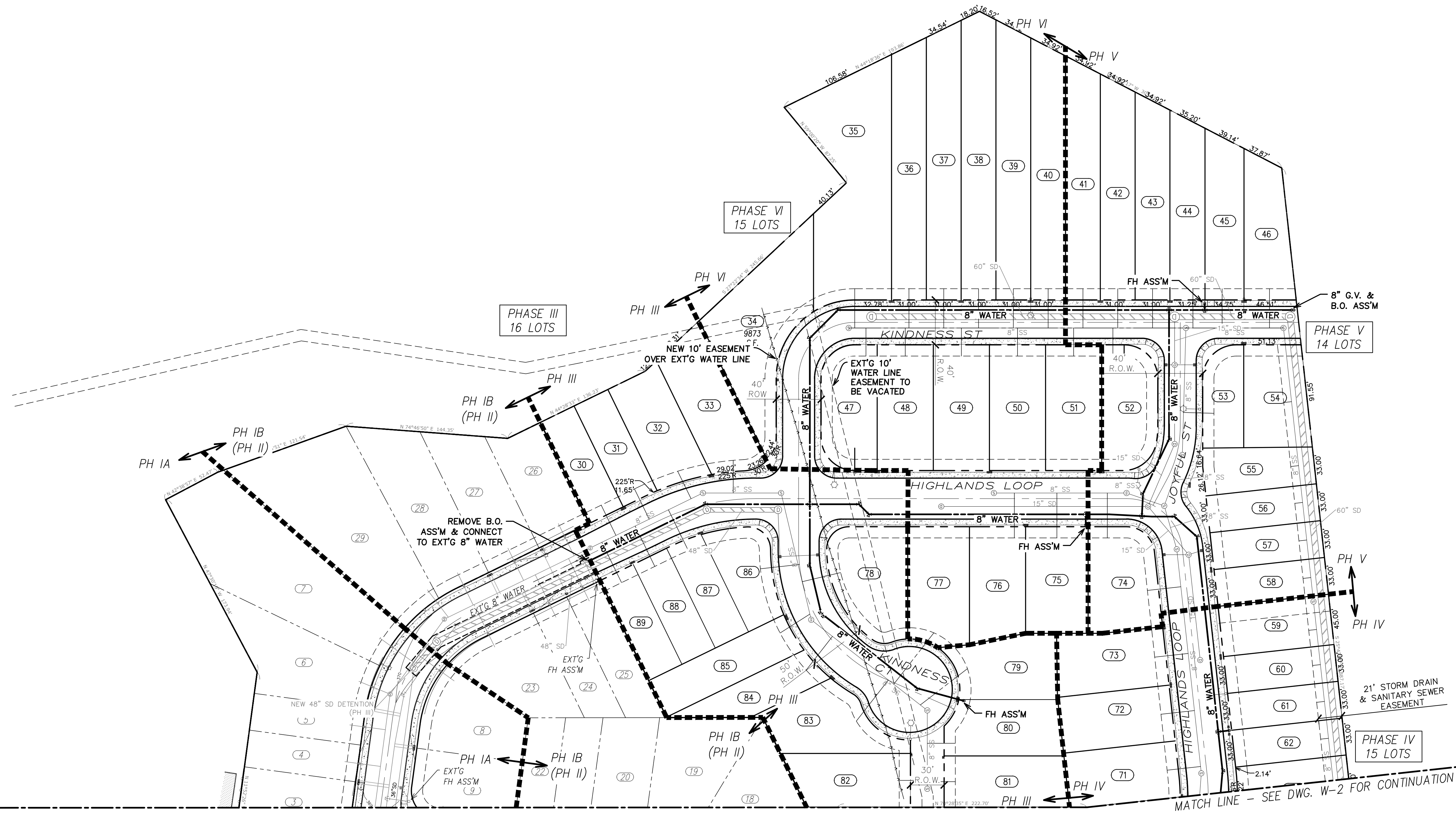
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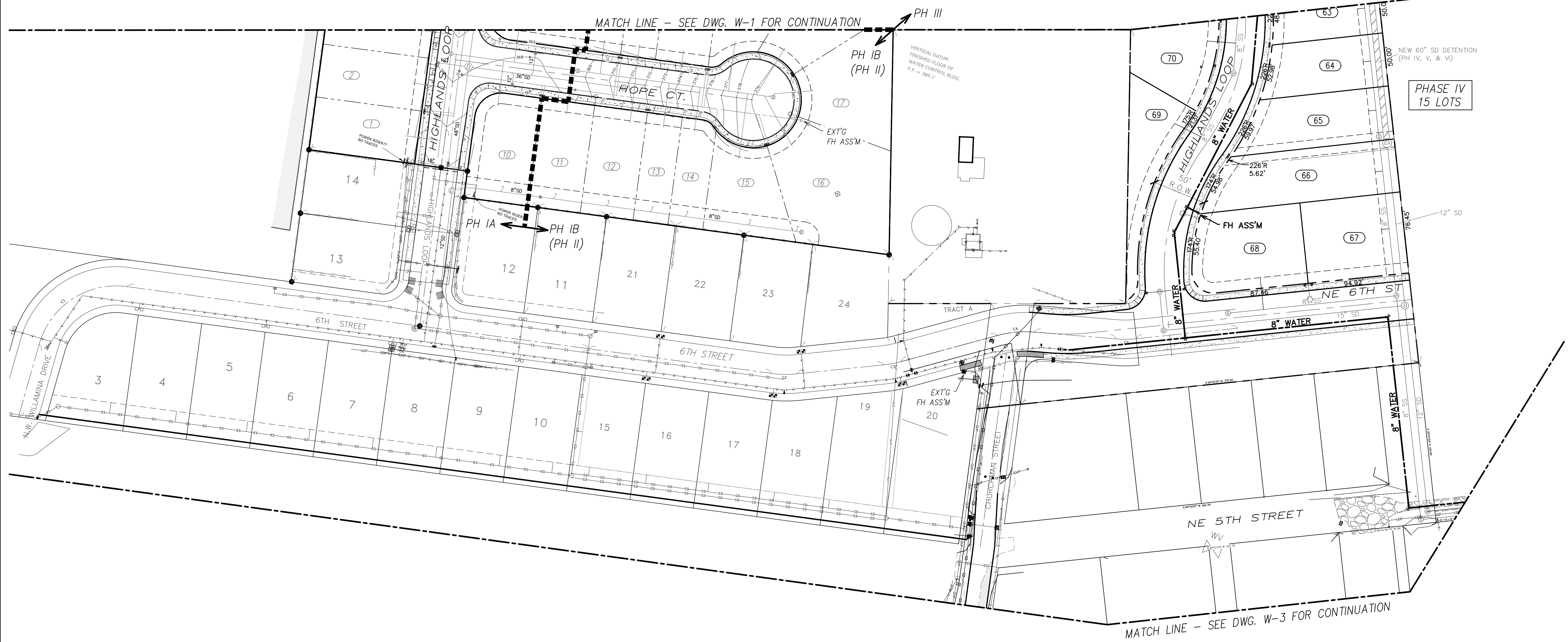
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 E-mail: westtech@westtech-eng.com

TIM WENGER  
 RIDGEVIEW SUBDIVISION - PHASES III - VI  
**WATER PLAN (NORTH)**

DRAWING  
**W-1**  
 JOB NUMBER  
**3154.2000**

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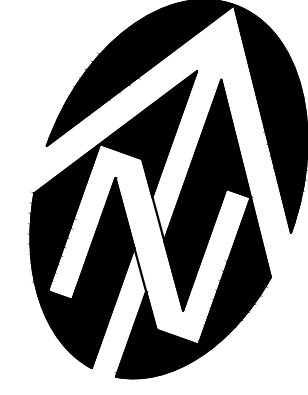
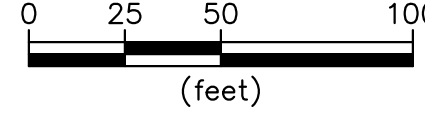
REVISIONS: 6/20/2024

TIM WENGER  
 RIDGEVIEW SUBDIVISION - PHASES III - VI

**WATER PLAN (CENTRAL)**

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JOB NUMBER  
**3154.2000**



MATCH LINE - SEE DWG. W-2 FOR CONTINUATION

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TIM WENGER  
 RIDGEVIEW SUBDIVISION - PHASES III - VI  
 WATER PLAN (SOUTH)

DRAWING  
**W-3**  
 JOB NUMBER  
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# DRAFT

## WILLAMINA RIDGEFIELD HEIGHTS PHASES III - VI TRANSPORTATION IMPACT ANALYSIS (TIA)

MAY 2023

**PREPARED FOR  
WESTECH ENGINEERING**



Steve Ward, P.E.

**PREPARED BY  
DKS ASSOCIATES**



Jenna Bogert, P.E., Transportation Engineer

Scott Mansur, P.E., PTOE, RSP<sub>1</sub>, Principal

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## INTRODUCTION

This study evaluates the transportation impacts associated with Phases III – VI of the Ridgefield Heights development in Willamina, Oregon. The proposed development consists of 60 single-family lots and is located north of NW 6<sup>th</sup> Street near Churchman Street. The anticipated future year of completion for this development is 2026.

The purpose of this traffic impact analysis (TIA) is to determine the estimated impacts that the proposed development may have on the transportation system within the vicinity of the project. This analysis includes an evaluation of existing conditions, trip generation estimates, trip distribution assumptions, and future year operating conditions at the study intersections. The TIA also includes a site plan evaluation.

## EXISTING CONDITIONS

The traffic impact analysis is focused on three study intersections which are listed below:

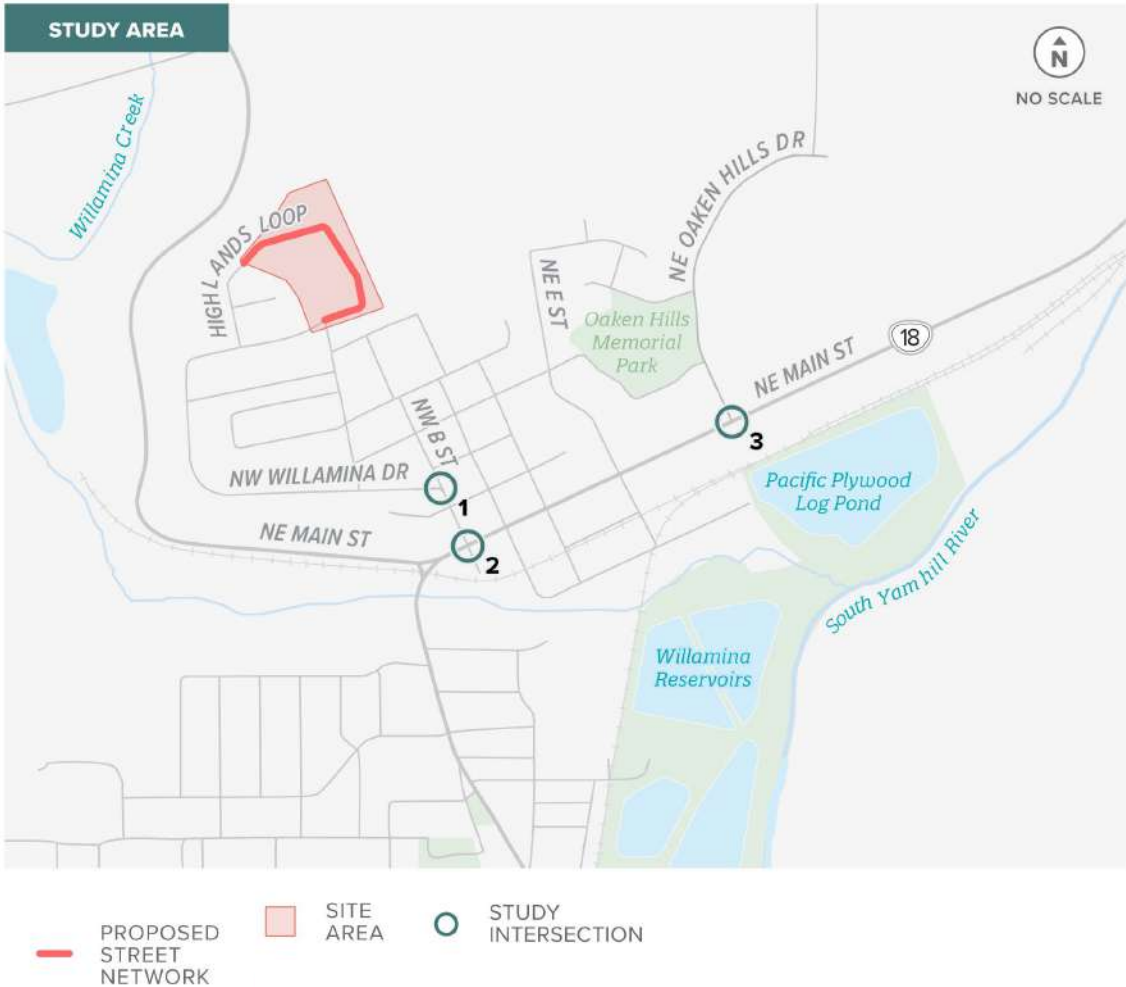
- NW B Street/Willamina Drive
- NE Main Street (OR 18B Willamina-Sheridan Highway)/NW B Street
- NE Main Street (OR 18B Willamina-Sheridan Highway)/NE Oaken Hills Drive

Table 1 lists important characteristics of the study area and proposed project. Figure 1 shows the study intersections and location of the project site.

**TABLE 1: KEY STUDY AREA AND PROPOSED DEVELOPMENT CHARACTERISTICS**

CHARACTERISTICS	INFORMATION
<b>STUDY AREA</b>	
NUMBER OF STUDY INTERSECTIONS	3
ANALYSIS PERIOD	Weekday AM Peak and PM Peak Hours (One hour between 6-9 AM and 3-6 PM)
<b>PROJECT SITE</b>	
PROPOSED DEVELOPMENT	60-lots of single family housing (30 detached, 30 attached)





**FIGURE 1: STUDY AREA**

## STUDY AREA ROADWAY NETWORK

Key roadways in the study area are summarized in Table 2 along with their existing roadway characteristics.

**TABLE 2: STUDY AREA ROADWAY CHARACTERISTICS (WITHIN THE VICINITY OF THE PROJECT)**

ROADWAY	FUNCTIONAL CLASSIFICATION	NO. OF LANES	POSTED SPEED	SIDEWALKS	BICYCLE FACILITIES	ON-STREET PARKING
NE MAIN STREET	District Highway (ODOT)	2	25 mph	Yes	No	Yes
WILLAMINA DRIVE	Local Street (City)	2	25 mph	No	No	Yes
NW B STREET	Local Street (City)	2	25 mph	Yes	No	Yes
NE OAKEN HILLS DRIVE	Minor Collector (City)	2	25 mph	Partial	No	Yes

## PEDESTRIAN AND BICYCLE FACILITIES

Currently, there are no dedicated bicycle facilities on NE Main Street (OR 18B), NE Oaken Hills Drive, Willamina Drive, or NW B Street. On-street parking is present on both sides of NE Main Street (OR 18B) between the Main Street Triangle and the Fire Station near the east city limits.

Sidewalks are present on both sides of NE Main Street and NW B Street. Sidewalks are present only on the west side of NE Oaken Hills Drive. A marked school crosswalk is located on the west leg of the NE Main Street/NE Oaken Hills Drive intersection. Marked crosswalks are present on all crossings of the NE Main Street/NW B Street intersection except the east leg.

## PUBLIC TRANSIT

Yamhill County Transit operates several fixed routes that serve a majority of the county. Route 22 (Grand Ronde) provides service between McMinnville and Grande Ronde with three stops in Willamina. Two of the bus stops are located on NE Main Street at the intersections of NE C Street and NE Oaken Hills Drive. This route has headways of approximately two to three hours during the weekdays. The route also provides service on Saturdays with headways of about 3 hours.

## EXISTING TRAFFIC VOLUMES

Existing AM peak period (6-9 AM) and PM peak period (3-6 PM) traffic volumes were collected at the three study intersections. The turning movement counts were collected on April 26<sup>th</sup> and May 4, 2023, while schools were in session.

Because two of the study intersections are under Oregon Department of Transportation (ODOT) jurisdiction, the existing 2023 traffic volumes used for analysis were adjusted to represent the 30<sup>th</sup> Highest Hour Volumes (30HV). A seasonal adjustment factor of 1.038 was applied per guidance found in the Analysis Procedures Manual (APM) by Oregon Department of Transportation (ODOT).<sup>1</sup> See below for details on the seasonal adjustment factor calculations.

## Seasonal Adjustment Factor

ODOT’s Analysis Procedures Manual (APM) calls for adjustment of raw traffic counts to 30th highest hour volumes (30 HV) to account for seasonal variation through the course of a year. Counts used in this analysis were collected in late April and early May during the AM and PM peak hours.

Because there are no Automatic Traffic Recorders (ATRs) located in close vicinity to Willamina, then an ATR located within a similar roadway context and annual traffic pattern was identified using the ATR Characteristic Table from ODOT. ATR 15-014, which is located in Jackson County on OR99 Rogue Valley Highway, was found to have similar characteristics (commuter trend, located in a rural populated city, and weekday traffic trend) to NE Main Street through Willamina.

The seasonal adjustment factor calculations are shown in Table 3. A factor of 1.038 was applied to all turning movements in the raw traffic count data.

**TABLE 3: SEASONAL ADJUSTMENT FACTOR**

ATR	MONTH	2021	2020	2019	2018	2017	SEASONAL ADJUSTMENT FACTOR
ATR 15-014 (TALENT, OR)	Peak (June)	116	120	114	120	117	117.7 / 113.3 = 1.038
	Traffic Counts (April)	114	88	111	120	115	
<b>SEASONAL ADJUSTMENT FACTOR</b>							<b>1.038</b>

*SHADED CELL = HIGHEST AND LOWEST DATA POINT OMITTED FROM CALCULATIONS PER APM*

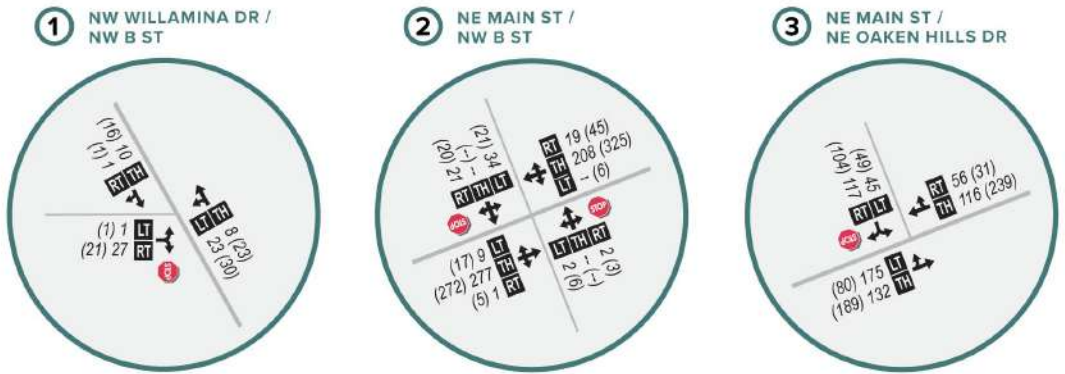
The adjusted 2023 existing traffic volumes for the AM and Afternoon peak hours are shown in Figure 2.

<sup>1</sup> Chapter 5, Analysis Procedures Manual, Oregon Department of Transportation, updated November 18, 2022.



- PROPOSED STREET NETWORK
- SITE AREA
- STUDY INTERSECTION
- MOTOR VEHICLE PEAK HOUR TRAFFIC VOLUMES
- STOP SIGN
- ↑ LANE CONFIGURATION
- LT TH RT LEFT • THRU • RIGHT VOLUME TURN MOVEMENT

**EXISTING VOLUMES AM (PM)**



**FIGURE 2: EXISTING 2023 AM AND PM PEAK HOUR VOLUMES**



## INTERSECTION PERFORMANCE MEASURES

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Level of service (LOS) ratings and volume-to-capacity (v/c) ratios are two commonly used performance measures that provide a good picture of intersection operations.

- **Level of Service (LOS):** A “report card” rating (A through F) based on the average delay experienced by vehicles at the intersection. LOS A, B, and C indicate conditions where traffic moves without significant delays over periods of peak hour travel demand. LOS D and E represent progressively worse operating conditions. LOS F represents conditions where average vehicle delay has become excessive and demand has exceeded capacity.
- **Volume-to-capacity (v/c) ratio:** A decimal representation (typically between 0.00 and 1.00) of the proportion of capacity that is being used at a turn movement, approach leg, or intersection. It is determined by dividing the peak hour traffic volume by the hourly capacity of a given intersection or movement. A lower ratio indicates smooth operations and minimal delays. As the ratio approaches 1.00, congestion increases, and performance is reduced. If the ratio is greater than 1.00, the turn movement, approach leg, or intersection is oversaturated and usually results in excessive queues and long delays.

## REQUIRED OPERATING STANDARDS

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Two of the study intersections are located on Oregon Department of Transportation (ODOT) facilities. Therefore, they are required to meet ODOT’s mobility target as prescribed in the 1999 Oregon Highway Plan (OHP). The Sheridan-Willamina Highway is classified as a district highway with a posted speed of 25 mph. Because the study intersections are located within an urban growth boundary, the target volume-to capacity (v/c) ratio is 0.95.<sup>2</sup>

Per the Transportation System Plan (TSP), the City of Willamina has a desired minimum Level of Service (LOS) D for all City arterials and collectors.<sup>3</sup> Individual movements may operate at LOS E.

## EXISTING OPERATING CONDITIONS

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Existing traffic operations at the study intersections were determined for the AM and PM peak hours based on the Highway Capacity Manual (HCM) 6th Edition methodology for unsignalized intersections.<sup>4</sup> The results were then compared with the ODOT mobility target and the City of Willamina minimum acceptable LOS D standard. Table 4 lists the estimated v/c ratio, delay, and LOS of each study intersection.

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<sup>2</sup> Oregon Highway Plan, Table 6, Oregon Department of Transportation, 1999 with Amendments.

<sup>3</sup> Willamina Transportation System Plan, 2022.

<sup>4</sup> Highway Capacity Manual, 6th Edition, Transportation Research Board, 2016.

**TABLE 4: EXISTING INTERSECTION OPERATIONS (2023)**

STUDY INTERSECTION	OPERATING STANDARD/ MOBILITY TARGET	AM PEAK HOUR				PM PEAK HOUR			
		MAJOR STREET MINOR STREET	V/C RATIO	DELAY (SECS)	LOS	MAJOR STREET MINOR STREET	V/C RATIO	DELAY (SECS)	LOS
<b>TWO-WAY STOP CONTROLLED</b>									
NW B ST/ WILLAMINA DR	LOS D (City)	NB	0.02	7.3	A	NB	0.03	7.4	A
		EB	0.04	8.5	A	EB	0.03	8.6	A
NE MAIN ST/ NW B ST	v/c ≤ 0.95 (ODOT)	EB	0.01	8.2	A	EB	0.02	8.3	A
		SB	0.18	15.4	C	SB	0.13	16.1	C
NE MAIN ST/NE OAKEN HILLS DR	v/c ≤ 0.95 (ODOT)	EB	0.21	8.6	A	EB	0.09	8.4	A
		SB	0.56	22.7	C	SB	0.41	17.4	C

**TWO-WAY STOP CONTROLLED INTERSECTION:**  
v/c = Critical Movement Volume-to-Capacity Ratio  
Delay = Critical Movement Average Vehicle Delay (sec)  
LOS = Level of Service

As shown above, the study intersections meet the City’s operating standard and ODOT mobility targets.

## SAFETY ANALYSIS

A crash analysis was performed for the study area and is presented in the sections below. Crash data was obtained from the ODOT Crash Analysis and Reporting Unit for the five most recent years of published data (2016-2020).

## CRASH STATISTICS

There were two reported crashes at the three study intersections on NE Main Street from 2016 to 2020.

- One property damage only (PDO), rear-end crash occurred at the intersection of NE Main Street (OR 18B Willamina-Sheridan Highway)/NE Oaken Hills Drive. The vehicles involved were traveling eastbound on NE Main Street in rainy conditions in February 2018.
- The other crash occurred at the intersection of NW B Street/NW Willamina Drive. The crash occurred on a clear, dry day in March 2016 and involved a westbound right turning vehicle on NW Willamina Drive that failed to stop at the intersection and struck a vehicle on NW B Street, resulting in property damage only (PDO).

## SPIS RANKINGS

The Safety Priority Index System (SPIS) is the ranking system developed by ODOT to identify potential safety problems on state highways. SPIS scores are developed based upon crash frequency, severity, and rate for a 0.10 mile or variable length segment along the state highway over a rolling three-year window. A prioritized list of the top 15% of statewide SPIS sites is created for each region, and the top 5% are investigated further.

SPIS data from the last three years of lists (SPIS 2020, SPIS 2019, and SPIS 2018) was evaluated. Based on SPIS 2019 (crashes from 2016-2018), there is one 85<sup>th</sup> percentile SPIS site on NE Main Street (OR 18B Willamina-Sheridan Highway) northeast of NE Oaken Hills Drive. The SPIS location is driven by two crashes that occurred on NE Main Street (OR 18B Willamina-Sheridan Highway) approximately 700' and 800' east of the intersection. Based on the safety evaluation, no additional safety impacts are expected with the proposed development.

## MAIN ST TRIANGLE SAFETY EVALUATION

As requested by the City's consultant staff, a safety evaluation of the NE Main Street/S Main Street intersection (referred to as the "Main Street triangle" in the City's TSP) is included in this traffic study.

The three-leg intersection allows uncontrolled through and right turn movements on the southbound approach (NE Main Street). The northbound approach (S Main Street) is uncontrolled for through movements, but the left turn movements must yield to southbound traffic. The eastbound approach is stop controlled for through movements and yield-controlled for right turn movements. Railroad tracks run east-west through the intersection. The intersection has a railroad crossing warning system (flashing lights and bells). Approximately two trains per day use the railroad through town.



**FIGURE 3: MAIN STREET "TRIANGLE"**

The intersection is unconventional and could be confusing to navigate. There are multiple stop bars and yield markings on the uncontrolled movements and railroad crossings. Turning radii are high for the turning movements that could lead to high vehicle speeds. As a pedestrian, crossing the intersection is also difficult as there are no clear crossing locations or curb ramps within the immediate vicinity of the intersection. Two business driveways are located within the functional area of the intersection on the north side of the triangle.

## CRASH ANALYSIS

A total of six crashes have occurred at the intersection based on the last five years of available crash data (2016 – 2020), including one serious injury (Injury A) crash. Four of the crashes were fixed object crashes, one was a rear-end crash, and one involved a vehicle backing into another. None of the crashes involved a pedestrian or bicyclist.

The serious injury crash occurred on a clear, dry day in August 2020 when a semi-tow truck traveling northbound on S Main Street departed from the roadway and struck the bridge guardrail (fixed object) due to the driver experiencing a medical condition. No other vehicles were involved.

The other three fixed object crashes occurred when vehicles traveling either northbound or southbound through the intersection struck either the median or poles within the intersection.

## PLANNED IMPROVEMENTS

ODOT is currently in the process of designing and rebuilding new ADA ramps (K22556) to meet current accessibility standards at various locations along OR 18B, including this NE Main Street intersection.

Based on the TSP, there are two enhanced pedestrian crossings that are planned for the west leg (project P3) and east leg (project P4) to improve connectivity to the downtown businesses and parks. A channelization improvement is also planned for the intersection (project R-2) that would reduce turning radii by installing an additional raised median, restripe the yield markings, and improve railroad crossing markings.

## SUMMARY

The Main St Triangle is lacking in safe and connected pedestrian and bicycle facilities, roadway striping, and other improvements that would provide clarity for drivers navigating the atypical intersection. As part of the previously mentioned funded ODOT ADA ramp project, ODOT will be evaluating the safety of the intersections along OR 18B, including the Main St Triangle, during the design process, which is set to begin this year.

## FUTURE CONDITIONS

The following chapter contains an evaluation of future conditions, including the project trip generation, future year intersection operations, and site plan review.

## TRIP GENERATION

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Trip generation is the method used to estimate the number of vehicles added to site roadways and the adjacent roadway network by a development during a specified period. For this study, ITE 11th



Edition trip generation data<sup>5</sup> was used to determine the trip generation of proposed development, which consists of 60 single-family lots (30 detached homes and 30 attached homes).

Table 5 provides the trip generation for the proposed development. As shown, the development is expected to generate a total of 35 (8 in, 27 out) AM peak hour trips and 46 (28 in, 18 out) PM peak hour trips.

**TABLE 5: SITE TRIP GENERATION**

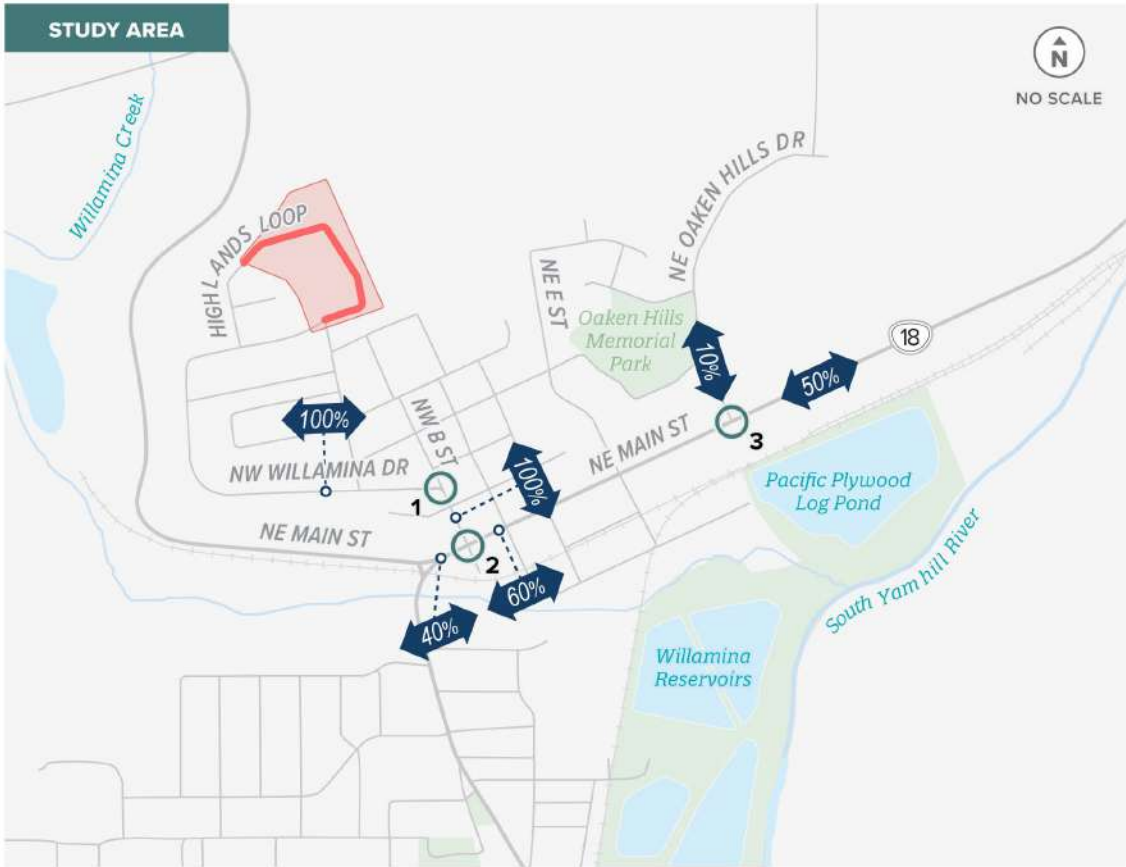
LAND USE	ITE CODE	QUANTITY	AM PEAK HOUR			PM PEAK HOUR			WEEKDAY
			TOTAL	IN	OUT	TOTAL	IN	OUT	
<b>SINGLE-FAMILY (UNATTACHED)</b>	210	30 dwelling units	25	6	19	32	20	12	333
<b>SINGLE-FAMILY (ATTACHED)</b>	215	30 dwelling units	10	2	8	14	8	6	178
<b>TOTAL</b>	-	<b>60 dwelling units</b>	<b>35</b>	<b>8</b>	<b>27</b>	<b>46</b>	<b>28</b>	<b>18</b>	<b>511</b>

## TRIP DISTRIBUTION

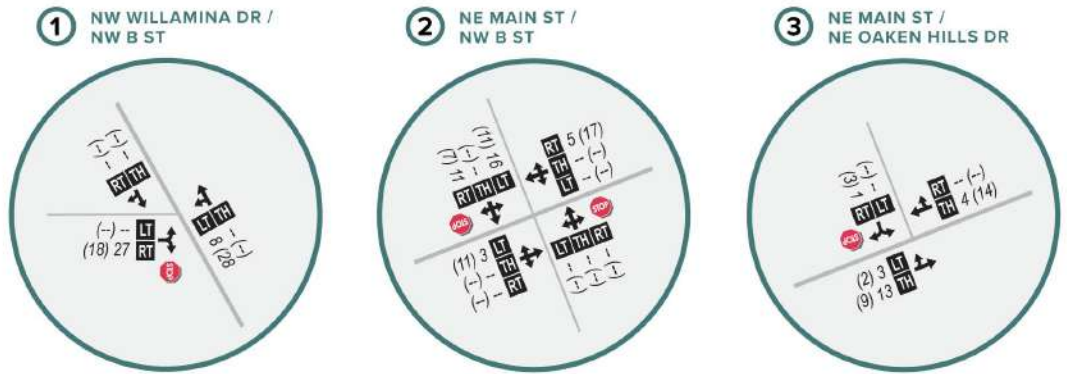
Trip distribution provides an estimate of where project-related trips are expected to be coming from and going to. It is given as percentages at key gateways to the study area and is used to route project trips through the study intersections.

Figure 4 shows the expected vehicle trip distribution and routing for the new vehicle trips generated by the proposed development. The distribution shows 40% of trips traveling to/from the west, 50% of trips traveling to/from the east, and 10% traveling to/from the Willamina schools via Oaken Hills Drive. These trip distribution percentages were estimated based on existing traffic count data.

<sup>5</sup> Trip Generation Manual, 11th Edition, Institute of Transportation Engineers, 2017.



**TRIP GENERATION VOLUMES AM (PM)**



**FIGURE 4: PROJECT TRIPS AND TRIP DISTRIBUTION**

## ANALYSIS SCENARIOS

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Future operating conditions were analyzed at the study intersections for the following future traffic scenarios. The comparison of the following scenarios enables the assessment of project impacts:

- 2026 No Build (background traffic only)
- 2026 Build (background traffic + project trips)

The 2026 No Build scenario represents the traffic conditions of the study area without the project trips for the proposed development. An average growth rate of 0.5% per year was applied to the existing 2023 traffic counts to project 2026 traffic counts. This rate is based on traffic volume projections for NE Main Street (OR 18B) from the ODOT Future Highway Volume Table. An average rate of 0.1% was calculated, but was rounded up to 0.5% for this analysis.

The 2026 Build scenario represents traffic conditions of the study area with the project trips for the proposed development, assuming it is built and fully occupied by 2026.

## FUTURE TRAFFIC VOLUMES

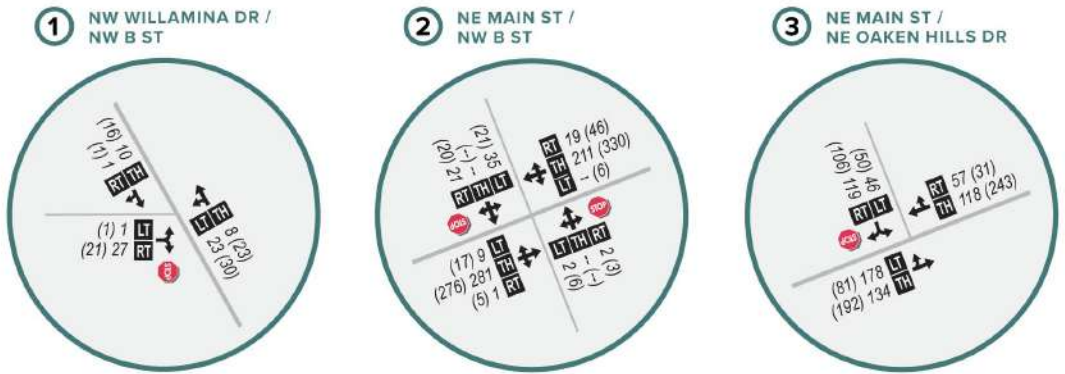
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The traffic volumes for the No Build and Build future analysis scenarios are shown in Figure 5 and Figure 6, respectively.



- PROPOSED STREET NETWORK
- SITE AREA
- STUDY INTERSECTION
- STOP STOP SIGN
- ↑ LANE CONFIGURATION
- xxx** MOTOR VEHICLE PEAK HOUR TRAFFIC VOLUMES
- LT TH RT LEFT • THRU • RIGHT VOLUME TURN MOVEMENT

**NO BUILD VOLUMES AM (PM)**



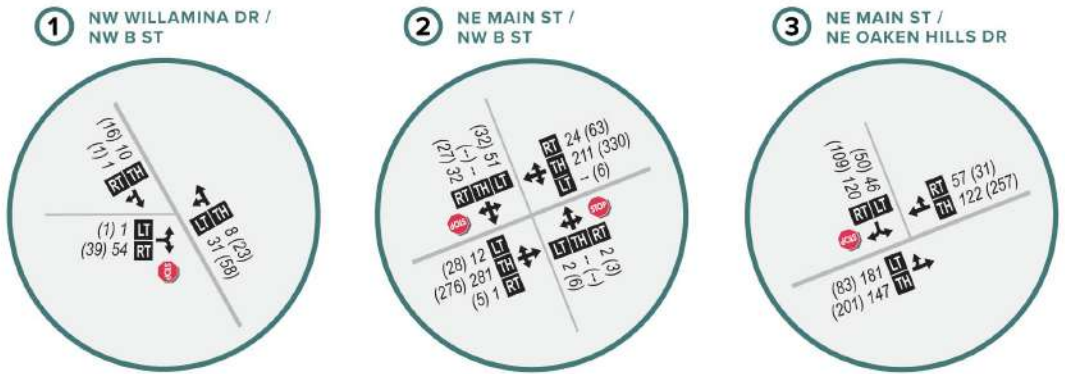
**FIGURE 5: NO BUILD AM AND PM PEAK HOUR VOLUMES (2026)**





- PROPOSED STREET NETWORK
- SITE AREA
- STUDY INTERSECTION
- MOTOR VEHICLE PEAK HOUR TRAFFIC VOLUMES
- STOP SIGN
- ↑ LANE CONFIGURATION
- LT TH RT LEFT • THRU • RIGHT VOLUME TURN MOVEMENT

### BUILD VOLUMES AM (PM)



**FIGURE 6: BUILD AM AND PM PEAK HOUR VOLUMES (2026)**

After the project is constructed, the nearby transportation system will see an increase in the number of vehicles traveling through it. The impact of the development at each study intersection is listed in Table 6 and shown as a percentage of total traffic in 2026 for both the AM and PM peak hours.

**TABLE 6: SITE TRAFFIC CONTRIBUTION**

INTERSECTION	PROJECT TRIPS		BUILD 2026 TRAFFIC			
	AM PEAK HOUR	PM PEAK HOUR	AM PEAK HOUR	%	PM PEAK HOUR	%
NW B ST/ WILLAMINA DR	35	46	105	33%	138	33%
NE MAIN ST/ NW B ST	35	46	616	6%	776	6%
NE MAIN ST/NE OAKEN HILLS DR	21	28	673	3%	731	4%

## FUTURE INTERSECTION OPERATIONS

Future traffic operations at the study intersections were determined for the AM and PM peak hours based on the Highway Capacity Manual (HCM) 6th Edition methodology for unsignalized intersections. Table 7 lists the estimated v/c ratio, delay, and LOS of each study intersection for the AM and PM peak hour under No Build and Build conditions. As shown, all study intersections are estimated to meet the City’s operating standard and ODOT mobility targets.

**TABLE 7: FUTURE INTERSECTION OPERATIONS (2026)**

STUDY INTERSECTION	OPERATING STANDARD/ MOBILITY TARGET	NO BUILD				BUILD			
		MAJOR STREET MINOR STREET	V/C RATIO	DELAY (SECS)	LOS	MAJOR STREET MINOR STREET	V/C RATIO	DELAY (SECS)	LOS
<b>AM PEAK HOUR</b>									
NW B ST/ WILLAMINA DR	LOS D (City)	NB	0.02	7.3	A	NB	0.03	7.4	A
		EB	0.04	8.5	A	EB	0.03	8.6	A
NE MAIN ST/ NW B ST	v/c ≤ 0.95 (ODOT)	EB	0.01	8.2	A	EB	0.02	8.4	A
		SB	0.19	15.7	C	SB	0.14	16.2	C
NE MAIN ST/ NE OAKEN HILLS DR	v/c ≤ 0.95 (ODOT)	EB	0.21	8.6	A	EB	0.09	8.4	A
		SB	0.59	24.1	C	SB	0.42	17.8	C
<b>PM PEAK HOUR</b>									
NW B ST/ WILLAMINA DR	LOS D (City)	NB	0.03	7.3	A	NB	0.05	7.4	A
		EB	0.07	8.6	A	EB	0.06	8.7	A
NE MAIN ST/ NW B ST	v/c ≤ 0.95 (ODOT)	EB	0.02	8.2	A	EB	0.03	8.5	A
		SB	0.28	17.2	C	SB	0.21	18.2	C
NE MAIN ST/ NE OAKEN HILLS DR	v/c ≤ 0.95 (ODOT)	EB	0.22	8.6	A	EB	0.10	8.5	A
		SB	0.61	26.0	D	SB	0.45	18.8	C

**TWO-WAY STOP CONTROLLED INTERSECTION:**

Delay = Critical Movement Approach Delay (sec.)

v/c = Critical Movement Volume-to-Capacity Ratio

LOS = Level of Service (Major/Minor Road)

## TURN LANE WARRANTS

This section evaluates left turn lane warrants at all three study intersections. According to the ODOT Analysis Procedures Manual, a left turn lane is warranted if any of the three following criteria are met:

- Criterion 1: Volume thresholds analyzed using Exhibit 12-1
- Criterion 2: History of crashes that may be mitigated by a left turn lane
- Criterion 3: Special cases such as nearby railroad crossings, geometric or sight distance concerns, or the presence of a non-traversable median

Left turn lane warrants were examined on eastbound approaches of NE Main Street and the northbound approach at NW Willamina Drive & NW B Street using build scenario volumes. Table 8 lists the results for Criterion 1 under the future No Build and Build conditions for the three study intersections. Further details can be found in the appendix. All proposed left turn lanes on state highways must be approved by the Region Traffic Engineer.

**TABLE 8: LEFT TURN LANE WARRANT EVALUATION**

STUDY INTERSECTION	MOVEMENT	CRITERION 1 (2026 NO BUILD AM/PM)	CRITERION 1 (2026 BUILD AM/PM)	CRITERION 2	CRITERIA 3	LEFT TURN LANE WARRANTED?
NW WILLAMINA DR/NW B ST	Northbound Left Turn	Not Met/ Not Met	Not Met/ Not Met	Not Met	Not Met	No
NE MAIN ST/ NW B ST	Eastbound Left Turn	Not Met/ <b>Met</b>	Not Met/ <b>Met</b>	Not Met	Not Met	<b>Yes</b>
NE MAIN ST/ NE OAKEN HILLS DR	Eastbound Left Turn	<b>Met/ Met</b>	<b>Met/ Met</b>	Not Met	Not Met	<b>Yes</b>

As shown, a left turn lane is warranted under future no build conditions and build for the eastbound approaches of NE Main Street & NW B Street and NE Main Street & NE Oaken Hills Drive (i.e., the left turn lane warrants are met without the proposed development).

There is adequate space for a left turn lane at NE Main Street & NW B Street, however, this would require removal of street parking spaces on NE Main Street, which may not be desirable from the adjacent business owners perspective. Considering there was not a documented safety issue and the intersection meets ODOT mobility targets, no left turn lane is recommended.

The Willamina TSP identifies the need for an eastbound left turn lane at NE Main Street & NE Oaken Hills Drive. As part of the previously mentioned funded ODOT ADA ramp project (K22556), ODOT will be rebuilding the curb ramps and repaving portions of the road along OR 18B in Willamina over the new few years. Considering there was not a documented safety issue and the intersection



meets ODOT mobility targets, a left turn lane is not critical to safety at this time. However, it is recommended that the City coordinate with ODOT throughout the course of the OR 18B ramp project to consider striping an eastbound left turn lane at the NE Oaken Hills Drive intersection.

## SITE PLAN EVALUATION

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The following site plan evaluation is based on the site plan drawings provided by the project applicant. The site plan can be found in the appendix.

### PROJECT SITE FRONTAGE

The roadway along the project site frontage is required to meet the City's cross-section standards for the designated road classification. The future extension of Highlands Loop will be classified as a Minor Collector, and the future proposed Hope Court, Kindness Court, Kindness Street, and Joyful Street will be classified as Local Streets. The City's TSP provides the cross-section requirements for these roadway classifications and the project applicant is required construct the internal streets to these standards.

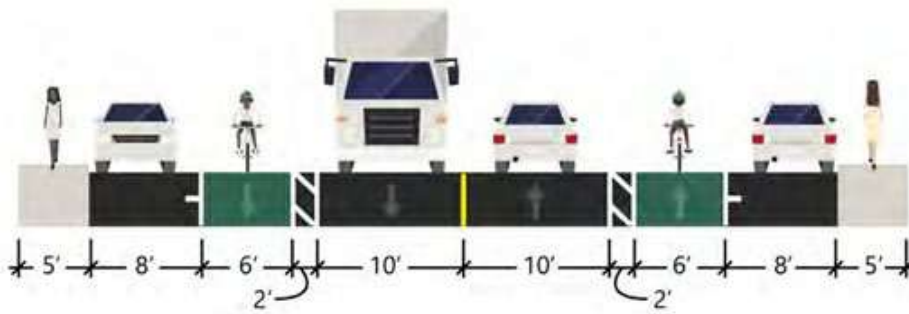


Figure 31. Cross Section - Typical Minor Collector

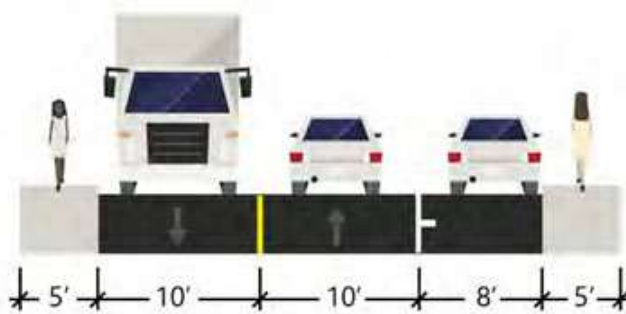


Figure 32. Cross Section - Typical Local Street

FIGURE 7: CROSS SECTION REQUIREMENTS FOR FRONTAGE IMPROVEMENTS

## **ACCESS SPACING REQUIREMENTS**

The City of Willamina adheres to City of Salem access spacing requirements. According to the City of Salem code<sup>6</sup>, there is no required spacing between intersections and driveways on local or collector streets.

## **SIGHT DISTANCE AT ACCESS POINTS**

According to industry standards, the necessary intersection sight distance needed for left-turning vehicles to make a safe turn is 280 feet based on a design speed of 25 mph.<sup>7</sup> Based on preliminary sight distance measurements, there is sufficient sight distance at the proposed driveways.

Prior to occupancy, sight distance at any proposed access points will need to be verified, documented, and stamped by a registered professional Civil or Traffic Engineer licensed in the State of Oregon to assure that buildings, signs, or landscaping does not restrict sight distance.

## **PROJECT SUMMARY**

A summary of the traffic impact analysis for the proposed residential development is provided below.

## **STUDY AREA AND PROPOSED DEVELOPMENT**

- The proposed Ridgefield Heights development (Phases III – VI) in Willamina, Oregon consists of 60 single-family residential lots (30 attached homes and 30 detached homes). The development is estimated to be complete by 2026.
- The study area included analysis of three study intersections at NW B Street & Willamina Drive, NE Main Street (Willamina-Sheridan Highway) & NW B Street, and NE Main Street (Willamina-Sheridan Highway) & NE Oaken Hills Drive.

## **MAIN STREET TRIANGLE SAFETY EVALUATION**

- The intersection of NE Main Street and S Main Street, also known as the Main Street Triangle, has a unique three-leg geometry with a free north-south movement. A railroad crossing runs east-west through the intersection. The intersection currently lacks safe pedestrian and bicycle facilities and is difficult to navigate as a driver.
- According to the TSP, there are three planned projects at this intersection. Two of the planned projects would install enhanced pedestrian crossings on the west leg and east leg to improve connectivity to downtown businesses and parks. One planned project will install a

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<sup>6</sup> Title X, Chapter 804.020(c), Salem Revised Code, Updated July 18, 2022.

<sup>7</sup> Table 9-7 and Table 9-9, A Policy on Geometric Design of Highways and Streets, 7th Edition, AASHTO, 2018.

raised median to reduce turning radii, restripe yield markings, and improve railroad crossing markings.

- As part of the funded ODOT ADA ramp project, ODOT will be rebuilding the ADA ramps along OR18B and will be evaluating the safety of the intersections along those segments during the design process. This includes the Main St Triangle.

## **TRIP GENERATION**

- The development is estimated to generate a total of 35 (8 in, 27 out) AM peak hour trips, 46 (28 in, 18 out) PM peak hour trips, and 511 total weekday trips.

## **INTERSECTION OPERATIONS**

- All study intersections meet City standards under all analysis scenarios. No mitigations based on vehicle operations are required.

## **TURN LANE WARRANTS**

- According to the ODOT Analysis Procedures Manual, left turn lanes are warranted on the eastbound approaches at NE Main Street & NW B Street and NE Main Street & NE Oaken Hills Drive under both 2026 No Build conditions and 2026 Build conditions.
- An eastbound left turn lane at NW B Street would require removal of street parking spaces on NE Main Street, which may not be desirable from the adjacent business owners perspective. Considering there was not a documented safety issue and the intersection meets ODOT mobility targets, no left turn lane is recommended.
- The Willamina TSP identifies the need for an eastbound left turn lane at the intersection of NE Main Street & NE Oaken Hills Drive. As there is no documented safety issue and the intersection meets ODOT mobility targets, a left turn lane is not critical to safety at the intersection at this time. However, it is recommended that the City coordinate with ODOT throughout the course of the ODOT ADA ramp project (K22556) to consider striping an eastbound left turn lane at the NE Oaken Hills Drive intersection.

## **SITE PLAN EVALUATION**

- The project applicant is required to construct all internal streets to City cross-section standards as described in the TSP.
- Based on preliminary sight distance measurements, there is sufficient sight distance at all proposed driveways for safe turning movements.
- Prior to occupancy, sight distance at any proposed access points will need to be verified, documented, and stamped by a registered professional Civil or Traffic Engineer licensed in the State of Oregon to assure that buildings, signs, or landscaping does not restrict sight distance.

## APPENDIX

A. TRAFFIC COUNT DATA

B. CRASH DATA

C. HCM REPORTS – EXISTING CONDITIONS

D. HCM REPORTS – NO BUILD CONDITIONS

E. HCM REPORTS – BUILD CONDITIONS

F. LEFT TURN LANE WARRANT EVALUATION

G. SITE PLAN



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## A. TRAFFIC COUNT DATA

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8:20 AM	0	0	42	0	0	0	19	2	0	0	0	0	0	6	0	1	70
8:25 AM	0	0	26	0	0	0	25	3	0	0	0	0	0	5	0	1	60
8:30 AM	0	1	13	0	0	0	43	3	0	0	0	0	0	2	0	3	65
8:35 AM	0	0	7	0	0	0	17	1	0	1	0	0	0	1	0	5	32
8:40 AM	0	0	14	0	0	0	16	1	0	1	0	1	0	1	0	0	34
8:45 AM	0	1	7	0	0	0	20	3	0	0	0	1	0	2	0	1	35
8:50 AM	0	2	12	0	0	0	14	0	0	0	0	0	0	2	0	0	30
8:55 AM	0	3	21	0	0	0	6	1	0	0	0	0	0	6	0	2	39
Count Total	0	19	567	3	0	0	411	31	0	3	0	2	0	89	0	52	1,177
Peak Hour	0	9	267	1	0	0	200	18	0	2	0	2	0	33	0	20	552

### Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
6:00 AM	0	0	1	0	1	6:00 AM	0	0	0	0	0	6:00 AM	0	0	0	0	0
6:05 AM	1	0	0	0	1	6:05 AM	0	0	0	0	0	6:05 AM	0	0	0	0	0
6:10 AM	2	0	0	0	2	6:10 AM	0	0	0	0	0	6:10 AM	0	0	0	0	0
6:15 AM	1	0	2	0	3	6:15 AM	0	0	0	0	0	6:15 AM	0	0	0	0	0
6:20 AM	2	0	4	0	6	6:20 AM	0	0	0	0	0	6:20 AM	0	0	0	0	0
6:25 AM	3	0	8	1	12	6:25 AM	0	0	0	0	0	6:25 AM	0	0	0	1	1
6:30 AM	6	0	0	0	6	6:30 AM	0	0	0	0	0	6:30 AM	0	0	0	0	0
6:35 AM	1	0	2	0	3	6:35 AM	0	0	0	0	0	6:35 AM	0	0	0	0	0
6:40 AM	2	0	4	0	6	6:40 AM	0	0	0	0	0	6:40 AM	0	0	0	0	0
6:45 AM	2	0	4	0	6	6:45 AM	0	0	0	0	0	6:45 AM	0	0	0	0	0
6:50 AM	3	0	1	1	5	6:50 AM	0	0	0	0	0	6:50 AM	0	0	0	0	0
6:55 AM	1	0	1	0	2	6:55 AM	0	0	0	0	0	6:55 AM	0	0	0	0	0
7:00 AM	3	0	1	0	4	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:05 AM	1	0	6	0	7	7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0
7:10 AM	4	0	4	0	8	7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0
7:15 AM	6	0	4	0	10	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:20 AM	4	0	6	0	10	7:20 AM	0	0	0	0	0	7:20 AM	1	1	0	0	2
7:25 AM	3	0	6	0	9	7:25 AM	0	0	0	0	0	7:25 AM	0	0	0	0	0
7:30 AM	2	0	1	0	3	7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0
7:35 AM	2	0	3	0	5	7:35 AM	0	0	0	0	0	7:35 AM	0	1	0	0	1
7:40 AM	4	0	2	1	7	7:40 AM	0	0	0	0	0	7:40 AM	0	0	0	2	2
7:45 AM	2	0	1	0	3	7:45 AM	0	0	0	0	0	7:45 AM	2	2	0	1	5
7:50 AM	3	0	3	0	6	7:50 AM	0	0	0	0	0	7:50 AM	0	0	0	0	0
7:55 AM	1	0	2	0	3	7:55 AM	0	0	0	0	0	7:55 AM	0	0	0	1	1
8:00 AM	5	0	2	0	7	8:00 AM	0	0	0	0	0	8:00 AM	0	1	0	0	1
8:05 AM	3	0	2	0	5	8:05 AM	0	0	0	0	0	8:05 AM	0	0	0	0	0
8:10 AM	5	0	1	0	6	8:10 AM	0	0	0	0	0	8:10 AM	0	1	0	1	2
8:15 AM	6	0	0	0	6	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:20 AM	1	0	2	0	3	8:20 AM	0	0	0	0	0	8:20 AM	0	1	0	0	1
8:25 AM	3	0	1	0	4	8:25 AM	0	0	0	0	0	8:25 AM	0	1	0	0	1
8:30 AM	3	0	1	0	4	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0
8:35 AM	3	0	0	0	3	8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	0	0
8:40 AM	1	0	5	0	6	8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	0	0
8:45 AM	1	0	4	0	5	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
8:50 AM	3	0	2	0	5	8:50 AM	0	0	0	0	0	8:50 AM	0	0	0	0	0
8:55 AM	2	0	1	0	3	8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	0	0
Count Total	95	0	87	3	185	Count Total	0	0	0	0	0	Count Total	3	8	0	6	17
Peak Hour	35	0	23	0	58	Peak Hour	0	0	0	0	0	Peak Hour	0	4	0	2	6





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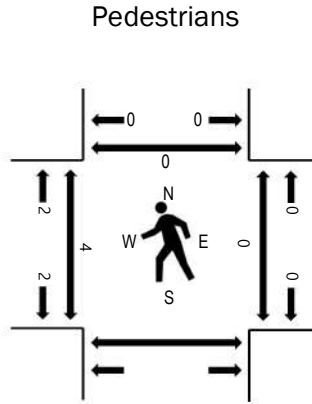
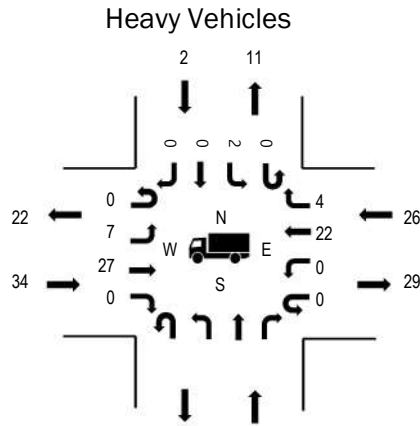
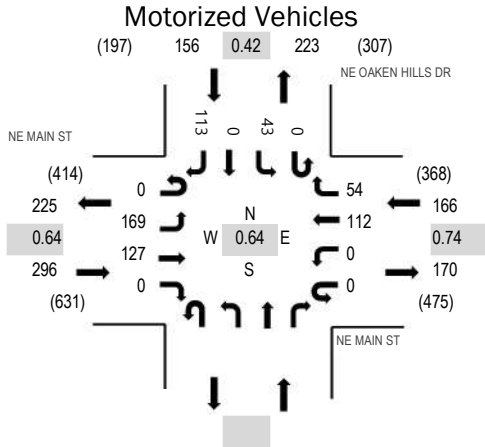
Location: 2 NE OAKEN HILLS DR & NE MAIN ST AM

Date: Wednesday, April 26, 2023

Peak Hour: 07:50 AM - 08:50 AM

Peak 15-Minutes: 08:15 AM - 08:30 AM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	11.5%	0.64
WB	15.7%	0.74
NB		
SB	1.3%	0.42
All	10.0%	0.64

Traffic Counts - Motorized Vehicles

Interval Start Time	NE MAIN ST Eastbound				NE MAIN ST Westbound				Northbound				NE OAKEN HILLS DR Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
6:00 AM	0	0	10	0	0	0	2	1					0	0	0	0	13	220
6:05 AM	0	0	8	0	0	0	4	0					0	0	0	1	13	227
6:10 AM	0	0	7	0	0	0	4	1					0	0	0	0	12	245
6:15 AM	0	0	5	0	0	0	7	1					0	0	0	1	14	268
6:20 AM	0	0	5	0	0	0	9	1					0	0	0	2	17	281
6:25 AM	0	0	14	0	0	0	11	1					0	0	0	0	26	306
6:30 AM	0	0	14	0	0	0	4	1					0	2	0	0	21	312
6:35 AM	0	0	6	0	0	0	10	0					0	1	0	0	17	324
6:40 AM	0	1	16	0	0	0	6	0					0	0	0	2	25	334
6:45 AM	0	2	7	0	0	0	9	1					0	1	0	0	20	341
6:50 AM	0	2	15	0	0	0	8	0					0	2	0	0	27	346
6:55 AM	0	0	9	0	0	0	5	0					0	1	0	0	15	351
7:00 AM	0	2	8	0	0	0	6	2					0	1	0	1	20	383
7:05 AM	0	3	14	0	0	0	9	1					0	1	0	3	31	400
7:10 AM	0	3	19	0	0	0	11	0					0	2	0	0	35	404
7:15 AM	0	1	10	0	0	0	8	6					0	2	0	0	27	426
7:20 AM	0	4	23	0	0	0	12	0					0	1	0	2	42	474
7:25 AM	0	2	18	0	0	0	7	2					0	1	0	2	32	509
7:30 AM	0	6	19	0	0	0	2	5					0	1	0	0	33	565
7:35 AM	0	5	12	0	0	0	5	3					0	0	0	2	27	599
7:40 AM	0	6	14	0	0	0	8	3					0	1	0	0	32	606
7:45 AM	0	11	9	0	0	0	4	1					0	0	0	0	25	607
7:50 AM	0	7	11	0	0	0	10	2					0	0	0	2	32	618
7:55 AM	0	15	17	0	0	0	7	7					0	0	0	1	47	611
8:00 AM	0	9	10	0	0	0	11	3					0	2	0	2	37	593
8:05 AM	0	2	8	0	0	0	11	4					0	3	0	7	35	
8:10 AM	0	23	13	0	0	0	8	4					0	2	0	7	57	
8:15 AM	0	37	11	0	0	0	6	15					0	2	0	4	75	

8:20 AM	0	27	10	0	0	0	10	11	0	6	0	13	77
8:25 AM	0	30	11	0	0	0	12	2	0	11	0	22	88
8:30 AM	0	9	7	0	0	0	6	2	0	10	0	33	67
8:35 AM	0	3	7	0	0	0	8	1	0	2	0	13	34
8:40 AM	0	2	13	0	0	0	12	0	0	3	0	3	33
8:45 AM	0	5	9	0	0	0	11	3	0	2	0	6	36
8:50 AM	0	2	7	0	0	0	10	1	0	4	0	1	25
8:55 AM	0	3	13	0	0	0	10	0	0	2	0	1	29
Count Total	0	222	409	0	0	0	283	85	0	66	0	131	1,196
Peak Hour	0	169	127	0	0	0	112	54	0	43	0	113	618

### Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
6:00 AM	1		1	0	2	6:00 AM	0		0	0	0	6:00 AM	0		0	0	0
6:05 AM	2		0	0	2	6:05 AM	0		0	0	0	6:05 AM	0		0	0	0
6:10 AM	2		1	0	3	6:10 AM	0		0	0	0	6:10 AM	0		0	0	0
6:15 AM	1		2	0	3	6:15 AM	0		0	0	0	6:15 AM	0		0	0	0
6:20 AM	2		4	1	7	6:20 AM	0		0	0	0	6:20 AM	0		0	0	0
6:25 AM	4		4	0	8	6:25 AM	0		0	0	0	6:25 AM	0		0	0	0
6:30 AM	6		0	0	6	6:30 AM	0		0	0	0	6:30 AM	0		0	0	0
6:35 AM	1		2	0	3	6:35 AM	0		0	0	0	6:35 AM	0		0	0	0
6:40 AM	2		4	1	7	6:40 AM	0		0	0	0	6:40 AM	0		0	0	0
6:45 AM	1		2	0	3	6:45 AM	0		0	0	0	6:45 AM	0		0	0	0
6:50 AM	5		2	0	7	6:50 AM	0		0	0	0	6:50 AM	0		0	0	0
6:55 AM	1		0	0	1	6:55 AM	0		0	0	0	6:55 AM	0		0	0	0
7:00 AM	1		0	1	2	7:00 AM	0		0	0	0	7:00 AM	0		0	0	0
7:05 AM	2		3	3	8	7:05 AM	0		0	0	0	7:05 AM	0		0	0	0
7:10 AM	4		3	0	7	7:10 AM	0		0	0	0	7:10 AM	0		0	0	0
7:15 AM	2		3	0	5	7:15 AM	0		0	0	0	7:15 AM	0		0	0	0
7:20 AM	5		5	1	11	7:20 AM	0		0	0	0	7:20 AM	0		0	0	0
7:25 AM	2		4	2	8	7:25 AM	0		0	0	0	7:25 AM	0		0	0	0
7:30 AM	1		0	0	1	7:30 AM	0		0	0	0	7:30 AM	0		0	0	0
7:35 AM	2		2	1	5	7:35 AM	0		0	0	0	7:35 AM	0		0	0	0
7:40 AM	5		2	0	7	7:40 AM	0		0	0	0	7:40 AM	2		0	2	4
7:45 AM	2		1	0	3	7:45 AM	0		0	0	0	7:45 AM	0		0	2	2
7:50 AM	3		4	0	7	7:50 AM	0		0	0	0	7:50 AM	2		0	0	2
7:55 AM	2		1	0	3	7:55 AM	0		0	0	0	7:55 AM	1		0	0	1
8:00 AM	4		2	0	6	8:00 AM	0		0	0	0	8:00 AM	0		0	0	0
8:05 AM	2		1	0	3	8:05 AM	0		0	0	0	8:05 AM	0		0	0	0
8:10 AM	5		1	0	6	8:10 AM	0		0	0	0	8:10 AM	0		0	0	0
8:15 AM	4		2	0	6	8:15 AM	0		0	0	0	8:15 AM	1		0	0	1
8:20 AM	4		3	1	8	8:20 AM	0		0	0	0	8:20 AM	0		0	0	0
8:25 AM	3		1	1	5	8:25 AM	0		0	0	0	8:25 AM	0		0	0	0
8:30 AM	1		1	0	2	8:30 AM	0		0	0	0	8:30 AM	0		0	0	0
8:35 AM	1		1	0	2	8:35 AM	0		0	0	0	8:35 AM	0		0	0	0
8:40 AM	4		6	0	10	8:40 AM	0		0	0	0	8:40 AM	0		0	0	0
8:45 AM	1		3	0	4	8:45 AM	0		0	0	0	8:45 AM	0		0	0	0
8:50 AM	3		2	1	6	8:50 AM	0		0	0	0	8:50 AM	1		0	0	1
8:55 AM	0		3	0	3	8:55 AM	0		0	0	0	8:55 AM	0		0	0	0
Count Total	91		76	13	180	Count Total	0		0	0	0	Count Total	7		0	4	11
Peak Hour	34		26	2	62	Peak Hour	0		0	0	0	Peak Hour	4		0	0	4



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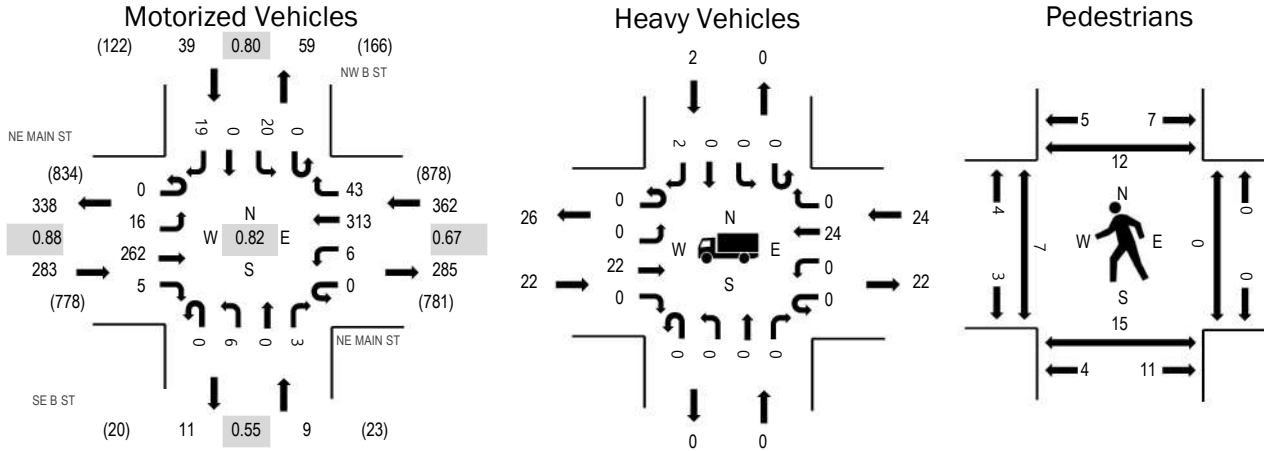
Location: 1 SE B ST & NE MAIN ST PM

Date: Wednesday, April 26, 2023

Peak Hour: 03:25 PM - 04:25 PM

Peak 15-Minutes: 03:35 PM - 03:50 PM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	7.8%	0.88
WB	6.6%	0.67
NB	0.0%	0.55
SB	5.1%	0.80
All	6.9%	0.82

Traffic Counts - Motorized Vehicles

Interval Start Time	NE MAIN ST Eastbound				NE MAIN ST Westbound				SE B ST Northbound				NW B ST Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
3:00 PM	0	1	15	0	0	0	18	1	0	1	0	0	0	2	0	2	40	674
3:05 PM	0	2	25	0	0	0	16	1	0	0	0	0	0	3	0	2	49	684
3:10 PM	0	1	29	0	0	1	19	0	0	0	0	1	0	1	0	0	52	686
3:15 PM	0	2	19	0	0	0	20	4	0	0	0	0	0	1	0	4	50	687
3:20 PM	0	1	16	0	0	0	26	1	0	0	0	0	0	1	0	1	46	686
3:25 PM	0	2	28	1	0	0	21	6	0	0	0	0	0	4	0	0	62	693
3:30 PM	0	1	27	0	0	2	26	5	0	0	0	0	0	2	0	1	64	688
3:35 PM	0	1	16	0	0	0	52	2	0	1	0	0	0	1	0	0	73	668
3:40 PM	0	2	15	0	0	1	42	6	0	0	0	2	0	1	0	4	73	653
3:45 PM	0	5	22	0	0	0	29	5	0	0	0	0	0	2	0	2	65	624
3:50 PM	0	1	19	1	0	0	26	2	0	0	0	0	0	2	0	2	53	602
3:55 PM	0	1	21	2	0	1	14	4	0	0	0	0	0	2	0	2	47	582
4:00 PM	0	0	18	0	0	0	24	3	0	1	0	0	0	1	0	3	50	573
4:05 PM	0	1	19	0	0	0	23	1	0	2	0	1	0	1	0	3	51	551
4:10 PM	0	0	29	0	0	1	16	3	0	1	0	0	0	3	0	0	53	562
4:15 PM	0	1	28	0	0	0	17	2	0	1	0	0	0	0	0	0	49	554
4:20 PM	0	1	20	1	0	1	23	4	0	0	0	0	0	1	0	2	53	553
4:25 PM	0	0	28	0	0	1	17	5	0	0	0	0	0	3	0	3	57	552
4:30 PM	0	0	14	1	0	0	21	4	0	0	0	1	0	2	0	1	44	537
4:35 PM	0	1	23	1	0	0	28	2	0	0	0	0	0	2	0	1	58	529
4:40 PM	0	3	16	1	0	0	16	4	0	2	0	0	0	1	0	1	44	528
4:45 PM	0	0	14	0	0	0	22	2	0	1	0	0	0	2	0	2	43	541
4:50 PM	0	4	9	1	0	0	10	4	0	1	0	0	0	4	0	0	33	539
4:55 PM	0	1	14	0	0	0	15	5	0	0	0	0	0	1	0	2	38	547
5:00 PM	0	1	9	0	0	0	13	0	0	0	0	0	0	4	0	1	28	554
5:05 PM	0	1	33	2	0	1	16	3	0	0	0	2	0	2	0	2	62	
5:10 PM	0	1	16	0	0	0	22	4	0	1	0	0	0	1	0	0	45	
5:15 PM	0	2	19	0	0	0	20	0	0	0	0	1	0	1	0	5	48	



5:20 PM	0	1	17	0	0	0	24	5	0	0	0	1	0	2	0	2	52
5:25 PM	0	1	18	0	0	0	17	3	0	0	0	0	0	3	0	0	42
5:30 PM	0	1	11	0	0	0	18	2	0	1	0	0	0	1	0	2	36
5:35 PM	0	7	19	0	0	0	19	2	0	0	0	1	0	4	0	5	57
5:40 PM	0	2	24	0	0	0	27	3	0	0	0	0	0	0	0	1	57
5:45 PM	0	2	18	0	0	0	17	2	0	0	0	0	0	1	0	1	41
5:50 PM	0	2	19	0	0	0	15	4	0	0	0	0	0	1	0	0	41
5:55 PM	0	7	20	0	0	0	14	2	0	0	0	0	0	1	0	1	45
Count Total	0	60	707	11	0	9	763	106	0	13	0	10	0	64	0	58	1,801
Peak Hour	0	16	262	5	0	6	313	43	0	6	0	3	0	20	0	19	693

### Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
3:00 PM	0	0	2	0	2	3:00 PM	0	0	0	0	0	3:00 PM	0	0	0	1	1
3:05 PM	1	0	0	0	1	3:05 PM	0	0	0	0	0	3:05 PM	0	1	0	0	1
3:10 PM	1	0	1	0	2	3:10 PM	0	0	0	0	0	3:10 PM	0	2	0	0	2
3:15 PM	2	0	2	1	5	3:15 PM	0	0	0	0	0	3:15 PM	0	0	0	0	0
3:20 PM	0	0	2	0	2	3:20 PM	0	0	0	0	0	3:20 PM	0	0	2	2	4
3:25 PM	1	0	4	0	5	3:25 PM	0	0	0	0	0	3:25 PM	0	0	0	2	2
3:30 PM	1	0	2	0	3	3:30 PM	0	0	0	0	0	3:30 PM	0	0	0	0	0
3:35 PM	0	0	3	0	3	3:35 PM	0	0	0	0	0	3:35 PM	0	0	0	4	4
3:40 PM	2	0	5	1	8	3:40 PM	0	0	0	0	0	3:40 PM	0	0	0	2	2
3:45 PM	2	0	1	0	3	3:45 PM	0	0	0	0	0	3:45 PM	0	0	0	4	4
3:50 PM	2	0	0	1	3	3:50 PM	0	0	0	0	0	3:50 PM	2	2	0	0	4
3:55 PM	5	0	1	0	6	3:55 PM	0	0	0	0	0	3:55 PM	3	2	0	1	6
4:00 PM	3	0	2	0	5	4:00 PM	0	0	0	0	0	4:00 PM	2	2	0	0	4
4:05 PM	1	0	2	0	3	4:05 PM	0	0	0	0	0	4:05 PM	0	3	0	1	4
4:10 PM	1	0	0	0	1	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	2	0	2	0	4	4:15 PM	0	0	0	0	0	4:15 PM	0	2	0	1	3
4:20 PM	2	0	2	0	4	4:20 PM	0	0	0	0	0	4:20 PM	0	4	0	0	4
4:25 PM	2	0	0	0	2	4:25 PM	0	0	1	0	1	4:25 PM	0	0	0	2	2
4:30 PM	0	0	1	0	1	4:30 PM	0	0	0	0	0	4:30 PM	3	3	0	3	9
4:35 PM	1	0	1	0	2	4:35 PM	0	0	0	0	0	4:35 PM	1	3	0	1	5
4:40 PM	1	0	1	0	2	4:40 PM	0	0	0	0	0	4:40 PM	1	0	0	1	2
4:45 PM	2	0	1	0	3	4:45 PM	0	0	0	0	0	4:45 PM	2	3	0	0	5
4:50 PM	1	0	0	0	1	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	1	1
4:55 PM	1	0	1	0	2	4:55 PM	0	0	0	0	0	4:55 PM	1	0	0	4	5
5:00 PM	0	0	1	0	1	5:00 PM	0	0	0	0	0	5:00 PM	1	2	0	0	3
5:05 PM	5	0	0	0	5	5:05 PM	0	0	0	0	0	5:05 PM	0	3	0	0	3
5:10 PM	0	0	3	0	3	5:10 PM	0	0	1	0	1	5:10 PM	0	0	0	1	1
5:15 PM	1	0	1	0	2	5:15 PM	0	0	2	0	2	5:15 PM	0	1	0	0	1
5:20 PM	0	0	1	0	1	5:20 PM	0	0	0	0	0	5:20 PM	0	4	0	0	4
5:25 PM	1	0	0	0	1	5:25 PM	0	0	0	0	0	5:25 PM	0	1	0	0	1
5:30 PM	1	0	3	0	4	5:30 PM	0	0	0	0	0	5:30 PM	1	1	0	2	4
5:35 PM	2	0	3	0	5	5:35 PM	0	0	0	0	0	5:35 PM	1	1	0	0	2
5:40 PM	2	0	2	0	4	5:40 PM	0	0	0	0	0	5:40 PM	2	1	0	4	7
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	0	1	0	0	1
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0	5:55 PM	0	2	0	0	2
Count Total	46	0	50	3	99	Count Total	0	0	4	0	4	Count Total	20	44	2	37	103
Peak Hour	22	0	24	2	48	Peak Hour	0	0	0	0	0	Peak Hour	7	15	0	15	37



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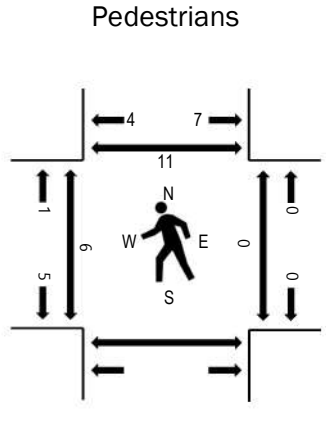
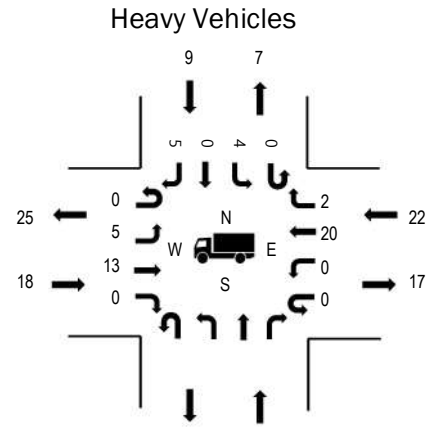
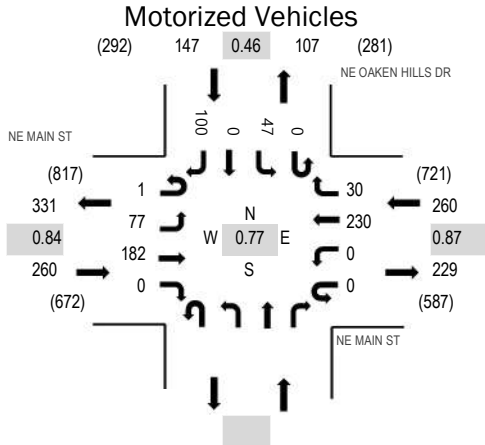
Location: 2 NE OAKEN HILLS DR & NE MAIN ST PM

Date: Wednesday, April 26, 2023

Peak Hour: 03:15 PM - 04:15 PM

Peak 15-Minutes: 03:25 PM - 03:40 PM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	6.9%	0.84
WB	8.5%	0.87
NB		
SB	6.1%	0.46
All	7.3%	0.77

Traffic Counts - Motorized Vehicles

Interval Start Time	NE MAIN ST Eastbound				NE MAIN ST Westbound				Northbound				NE OAKEN HILLS DR Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
3:00 PM	0	2	9	0	0	0	20	1					0	3	0	3	38	643
3:05 PM	0	2	25	0	0	0	12	1					0	3	0	2	45	654
3:10 PM	0	8	8	0	0	0	14	5					0	2	0	0	37	653
3:15 PM	0	12	11	0	0	0	21	1					0	6	0	1	52	667
3:20 PM	0	4	14	0	0	0	19	4					0	0	0	2	43	658
3:25 PM	0	16	17	0	0	0	27	2					0	1	0	3	66	662
3:30 PM	0	7	20	0	0	0	15	5					0	7	0	20	74	632
3:35 PM	0	8	11	0	0	0	23	3					0	9	0	22	76	606
3:40 PM	0	3	15	0	0	0	15	5					0	2	0	20	60	578
3:45 PM	0	7	12	0	0	0	21	1					0	4	0	12	57	563
3:50 PM	0	3	17	0	0	0	15	3					0	4	0	6	48	549
3:55 PM	0	2	14	0	0	0	21	3					0	2	0	5	47	536
4:00 PM	0	4	16	0	0	0	16	3					0	7	0	3	49	526
4:05 PM	1	5	14	0	0	0	18	0					0	3	0	3	44	513
4:10 PM	0	6	21	0	0	0	19	0					0	2	0	3	51	513
4:15 PM	0	4	18	0	0	0	16	0					0	2	0	3	43	517
4:20 PM	0	2	24	0	0	0	16	1					0	1	0	3	47	514
4:25 PM	0	8	11	0	0	0	15	0					0	0	0	2	36	512
4:30 PM	0	2	20	0	0	0	21	2					0	1	0	2	48	521
4:35 PM	0	5	11	0	0	0	22	1					0	5	0	4	48	511
4:40 PM	0	4	17	0	0	0	16	3					0	1	0	4	45	501
4:45 PM	0	1	9	0	0	0	19	4					0	3	0	7	43	504
4:50 PM	0	3	12	0	0	0	13	4					0	1	0	2	35	514
4:55 PM	0	2	11	0	0	0	14	3					0	5	0	2	37	514
5:00 PM	0	2	5	0	0	0	19	5					0	2	0	3	36	516
5:05 PM	0	6	18	0	0	0	14	3					0	1	0	2	44	
5:10 PM	0	5	14	0	0	0	19	4					0	4	0	9	55	
5:15 PM	0	2	13	0	0	0	16	1					0	2	0	6	40	

5:20 PM	0	5	13	0	0	0	16	2	0	2	0	7	45
5:25 PM	0	7	12	0	0	0	20	1	0	1	0	4	45
5:30 PM	0	8	5	0	0	0	9	4	0	5	0	7	38
5:35 PM	0	5	9	0	0	0	15	1	0	2	0	6	38
5:40 PM	0	8	12	0	0	0	23	2	0	2	0	1	48
5:45 PM	0	9	10	0	0	0	22	5	0	2	0	5	53
5:50 PM	0	4	9	0	0	0	10	7	0	4	0	1	35
5:55 PM	0	7	6	0	0	0	17	3	0	3	0	3	39
Count Total	1	188	483	0	0	0	628	93	0	104	0	188	1,685
Peak Hour	1	77	182	0	0	0	230	30	0	47	0	100	667



### Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
3:00 PM	1		1	0	2	3:00 PM	0		0	0	0	3:00 PM	0		0	0	0
3:05 PM	2		0	0	2	3:05 PM	0		0	0	0	3:05 PM	0		0	0	0
3:10 PM	1		3	0	4	3:10 PM	0		0	0	0	3:10 PM	0		0	2	2
3:15 PM	2		3	2	7	3:15 PM	0		0	0	0	3:15 PM	1		0	0	1
3:20 PM	0		3	0	3	3:20 PM	0		0	0	0	3:20 PM	0		0	1	1
3:25 PM	1		3	0	4	3:25 PM	0		0	0	0	3:25 PM	1		0	1	2
3:30 PM	1		3	1	5	3:30 PM	0		0	0	0	3:30 PM	0		0	0	0
3:35 PM	0		4	1	5	3:35 PM	0		0	1	1	3:35 PM	1		0	0	1
3:40 PM	2		0	5	7	3:40 PM	0		0	0	0	3:40 PM	0		0	0	0
3:45 PM	2		0	0	2	3:45 PM	0		0	0	0	3:45 PM	1		0	3	4
3:50 PM	2		1	0	3	3:50 PM	0		0	0	0	3:50 PM	0		0	4	4
3:55 PM	5		0	0	5	3:55 PM	0		0	0	0	3:55 PM	0		0	2	2
4:00 PM	0		2	0	2	4:00 PM	0		0	0	0	4:00 PM	1		0	0	1
4:05 PM	3		2	0	5	4:05 PM	0		0	0	0	4:05 PM	1		0	0	1
4:10 PM	0		1	0	1	4:10 PM	0		0	0	0	4:10 PM	0		0	0	0
4:15 PM	3		2	0	5	4:15 PM	0		0	0	0	4:15 PM	0		0	0	0
4:20 PM	2		0	0	2	4:20 PM	0		0	0	0	4:20 PM	1		0	2	3
4:25 PM	1		0	0	1	4:25 PM	0		0	0	0	4:25 PM	0		0	0	0
4:30 PM	1		2	0	3	4:30 PM	0		0	0	0	4:30 PM	0		0	0	0
4:35 PM	0		1	0	1	4:35 PM	0		0	0	0	4:35 PM	0		0	0	0
4:40 PM	2		2	0	4	4:40 PM	0		0	0	0	4:40 PM	0		0	0	0
4:45 PM	2		1	0	3	4:45 PM	0		0	0	0	4:45 PM	0		0	0	0
4:50 PM	0		0	0	0	4:50 PM	0		0	0	0	4:50 PM	2		0	2	4
4:55 PM	1		1	0	2	4:55 PM	0		0	0	0	4:55 PM	0		0	0	0
5:00 PM	0		1	0	1	5:00 PM	0		0	0	0	5:00 PM	0		0	0	0
5:05 PM	3		0	0	3	5:05 PM	0		0	0	0	5:05 PM	1		0	1	2
5:10 PM	1		4	0	5	5:10 PM	0		0	0	0	5:10 PM	0		0	0	0
5:15 PM	0		0	1	1	5:15 PM	0		0	0	0	5:15 PM	0		0	0	0
5:20 PM	1		1	0	2	5:20 PM	0		0	0	0	5:20 PM	3		0	1	4
5:25 PM	0		1	0	1	5:25 PM	0		0	0	0	5:25 PM	0		0	0	0
5:30 PM	1		2	0	3	5:30 PM	0		0	0	0	5:30 PM	0		0	2	2
5:35 PM	1		1	0	2	5:35 PM	0		0	0	0	5:35 PM	0		0	0	0
5:40 PM	2		2	0	4	5:40 PM	0		0	0	0	5:40 PM	0		0	0	0
5:45 PM	0		0	0	0	5:45 PM	0		0	0	0	5:45 PM	0		0	0	0
5:50 PM	0		0	0	0	5:50 PM	0		0	0	0	5:50 PM	0		0	0	0
5:55 PM	0		0	0	0	5:55 PM	0		0	0	0	5:55 PM	3		0	2	5
Count Total	43		47	10	100	Count Total	0		0	1	1	Count Total	16		0	23	39
Peak Hour	18		22	9	49	Peak Hour	0		0	1	1	Peak Hour	6		0	11	17

## B. CRASH DATA

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000 Crash Id	015 Street Name	016 Intersecting Street Name	028 Crash Type	029 Collision Type	031 Weather Conditions	032 Road Surface Conditions	033 Lighting Conditions	034 Traffic Control	036 Crash Cause 1	114 Road Departure Flag	117 Severity	118 Intersection Flag	126 Bike / Ped Related	Week of 001 CRASH Date	002 Year	007 County	008 Jurisdiction
1693622	N B ST	WILLAMINA DR	ANGL-OTH	TURN	CLR	DRY	DAY	STOP SIGN	NO-YIELD	No	PDO	Yes	Neither	13-Mar-16	2016	Yamhill	Willamina
1818784	E MAIN ST	OAKEN HILLS DR	S-1STOP	REAR	RAIN	WET	DAY	UNKNOWN	TOO-CLOS	No	PDO	No	Neither	11-Feb-18	2018	Yamhill	Willamina
1876844	S MAIN ST	W MAIN ST	FIX OBJ	FIX	CLR	DRY	DAY	UNKNOWN	ILLNESS	Yes	Serious Injury (A)	No	Neither	2-Aug-20	2020	Yamhill	Willamina
1783321	E MAIN ST	W MAIN ST	FIX OBJ	FIX	CLD	DRY	DARK	UNKNOWN	RECKLESS	No	Minor Injury (B)	Yes	Neither	18-Mar-18	2018	Yamhill	Willamina
1761480	W MAIN ST	S MAIN ST	S-1STOP	REAR	CLR	DRY	DAY	UNKNOWN	TOO-CLOS	No	PDO	Yes	Neither	2-Apr-17	2017	Yamhill	Willamina
1798107	E MAIN ST	W MAIN ST	O-1STOP	BACK	CLR	DRY	DAY	UNKNOWN	OTHR-IMP	No	Minor Injury (B)	Yes	Neither	5-Aug-18	2018	Yamhill	Willamina
1708762	E MAIN ST	W MAIN ST	FIX OBJ	FIX	CLR	DRY	DLIT	STOP SIGN	SPEED	No	PDO	Yes	Neither	31-Jul-16	2016	Yamhill	Willamina
1868364	E MAIN ST	W MAIN ST	FIX OBJ	FIX	CLR	DRY	DAY	CHANNEL	FATIGUE	No	PDO	Yes	Neither	26-May-19	2019	Yamhill	Willamina

119 State Highway Flag	005 Region	011 Hwy No	013 Lat	014 Long	001 CRASH Date	021 Road Characteristics	022 Off Roadway Flag	023 Isect Typ Short Desc	024 Isect Rel Flg	025 Drvwy Rel Flg	035 Crash Evt 1 Short Desc	039 Alcohol Involved Flag	040 Drug Involved Flag	041 Marijuana Flag	042 Speed Involved Flag	054 Veh1 MVMNT SHORT DESC
No	2		45.07971944	-123.4861472	3/15/2016	INTER	FALSE	3-LEG	FALSE	FALSE		FALSE	FALSE	FALSE	FALSE	TURN-R
Yes	2	157	45.08081111	-123.4794333	2/16/2018	STRGHT	FALSE		FALSE	FALSE		FALSE	FALSE	FALSE	FALSE	STRGHT
Yes	2	157	45.0781934	-123.4865509	8/3/2020	CURVE	TRUE		FALSE	FALSE	BR RAIL	FALSE	FALSE	FALSE	FALSE	STRGHT
Yes	2	157	45.07847222	-123.4863306	3/18/2018	INTER	TRUE	3-LEG	FALSE	FALSE	BARRIER	TRUE	FALSE	FALSE	TRUE	STRGHT
No	2		45.07851389	-123.4870278	4/4/2017	STRGHT	FALSE		TRUE	FALSE		FALSE	FALSE	FALSE	FALSE	STRGHT
No	2		45.078475	-123.4863361	8/6/2018	INTER	FALSE	3-LEG	FALSE	FALSE		FALSE	FALSE	FALSE	FALSE	BACK
Yes	2	157	45.07847222	-123.4863306	8/6/2016	INTER	TRUE	3-LEG	FALSE	FALSE	BARRIER	TRUE	FALSE	FALSE	TRUE	STRGHT
Yes	2	157	45.07847525	-123.4863396	5/27/2019	INTER	TRUE	3-LEG	FALSE	FALSE	RR ROW	FALSE	FALSE	FALSE	FALSE	STRGHT

055 Veh1 VHCL CMPSS DIR FROM SHORT DESC	056 Veh1 VHCL CMPSS DIR TO SHORT DESC	057 Veh1 ACTN SHORT DESC	058 Veh1 VHCL EVNT 1 SHORT DESC	064 Veh2 MVMNT SHORT DESC	065 Veh2 VHCL CMPSS DIR FROM SHORT DESC	066 Veh2 VHCL CMPSS DIR TO SHORT DESC	067 Veh2 ACTN SHORT DESC
W	S	GO A/STOP		TURN-L	S	W	NONE
S	N	NONE		STOP	S	N	STOPPED
S	N	NONE	BR RAIL				
NE	SW	NONE	BARRIER				
W	E	NONE		STOP	W	E	STP/L TRN
E	W	NONE		STOP	W	E	STOPPED
SW	NE	THRU MED					
S	N	OTHER					



## C. HCM REPORTS – EXISTING CONDITIONS

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Intersection						
Int Delay, s/veh	5.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	1	27	23	8	10	1
Future Vol, veh/h	1	27	23	8	10	1
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	0	0	5	0	0	0
Mvmt Flow	1	36	31	11	14	1

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	89	16	16	0	0
Stage 1	16	-	-	-	-
Stage 2	73	-	-	-	-
Critical Hdwy	6.4	6.2	4.15	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.245	-	-
Pot Cap-1 Maneuver	917	1069	1582	-	-
Stage 1	1012	-	-	-	-
Stage 2	955	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	897	1068	1580	-	-
Mov Cap-2 Maneuver	897	-	-	-	-
Stage 1	991	-	-	-	-
Stage 2	954	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	5.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1580	-	1061	-	-
HCM Lane V/C Ratio	0.02	-	0.036	-	-
HCM Control Delay (s)	7.3	0	8.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection												
Int Delay, s/veh	1.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	9	277	1	0	208	19	2	0	2	34	0	21
Future Vol, veh/h	9	277	1	0	208	19	2	0	2	34	0	21
Conflicting Peds, #/hr	2	0	4	4	0	2	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	71	71	71	71	71	71	71	71	71	71	71	71
Heavy Vehicles, %	22	12	0	0	12	0	0	0	0	0	0	0
Mvmt Flow	13	390	1	0	293	27	3	0	3	48	0	30

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	322	0	0	395	0	0	743	743	395	727	730	309
Stage 1	-	-	-	-	-	-	421	421	-	309	309	-
Stage 2	-	-	-	-	-	-	322	322	-	418	421	-
Critical Hdwy	4.32	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.398	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1133	-	-	1175	-	-	334	346	659	342	352	736
Stage 1	-	-	-	-	-	-	614	592	-	705	663	-
Stage 2	-	-	-	-	-	-	694	655	-	616	592	-
Platoon blocked, %		-	-	-	-	-						
Mov Cap-1 Maneuver	1131	-	-	1171	-	-	316	339	656	336	345	735
Mov Cap-2 Maneuver	-	-	-	-	-	-	316	339	-	336	345	-
Stage 1	-	-	-	-	-	-	602	581	-	693	662	-
Stage 2	-	-	-	-	-	-	666	654	-	604	581	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0	13.5	15.4
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	427	1131	-	-	1171	-	-	424
HCM Lane V/C Ratio	0.013	0.011	-	-	-	-	-	0.183
HCM Control Delay (s)	13.5	8.2	0	-	0	-	-	15.4
HCM Lane LOS	B	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.7

Intersection						
Int Delay, s/veh	8.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	175	132	116	56	45	117
Future Vol, veh/h	175	132	116	56	45	117
Conflicting Peds, #/hr	0	0	0	0	0	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	64	64	64	64	64	64
Heavy Vehicles, %	4	21	20	7	5	0
Mvmt Flow	273	206	181	88	70	183

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	269	0	-	0	977 229
Stage 1	-	-	-	-	225 -
Stage 2	-	-	-	-	752 -
Critical Hdwy	4.14	-	-	-	6.45 6.2
Critical Hdwy Stg 1	-	-	-	-	5.45 -
Critical Hdwy Stg 2	-	-	-	-	5.45 -
Follow-up Hdwy	2.236	-	-	-	3.545 3.3
Pot Cap-1 Maneuver	1283	-	-	-	275 815
Stage 1	-	-	-	-	805 -
Stage 2	-	-	-	-	460 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1283	-	-	-	209 812
Mov Cap-2 Maneuver	-	-	-	-	209 -
Stage 1	-	-	-	-	612 -
Stage 2	-	-	-	-	460 -

Approach	EB	WB	SB
HCM Control Delay, s	4.9	0	22.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1283	-	-	-	451
HCM Lane V/C Ratio	0.213	-	-	-	0.561
HCM Control Delay (s)	8.6	0	-	-	22.7
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.8	-	-	-	3.4

Intersection						
Int Delay, s/veh	4.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	1	21	30	23	16	1
Future Vol, veh/h	1	21	30	23	16	1
Conflicting Peds, #/hr	0	1	6	0	0	6
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	0	0	3	0	7	0
Mvmt Flow	1	30	42	32	23	1

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	146	31	30	0	0
Stage 1	30	-	-	-	-
Stage 2	116	-	-	-	-
Critical Hdwy	6.4	6.2	4.13	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.227	-	-
Pot Cap-1 Maneuver	851	1049	1576	-	-
Stage 1	998	-	-	-	-
Stage 2	914	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	818	1042	1567	-	-
Mov Cap-2 Maneuver	818	-	-	-	-
Stage 1	965	-	-	-	-
Stage 2	909	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	4.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1567	-	1029	-	-
HCM Lane V/C Ratio	0.027	-	0.03	-	-
HCM Control Delay (s)	7.4	0	8.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-



Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	17	272	5	6	325	45	6	0	3	21	0	20
Future Vol, veh/h	17	272	5	6	325	45	6	0	3	21	0	20
Conflicting Peds, #/hr	12	0	15	15	0	12	7	0	0	0	0	7
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	8	0	0	8	0	0	0	0	0	0	11
Mvmt Flow	21	332	6	7	396	55	7	0	4	26	0	24

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	463	0	0	353	0	0	849	869	350	829	845	443
Stage 1	-	-	-	-	-	-	392	392	-	450	450	-
Stage 2	-	-	-	-	-	-	457	477	-	379	395	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.31
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.399
Pot Cap-1 Maneuver	1109	-	-	1217	-	-	283	292	698	292	302	596
Stage 1	-	-	-	-	-	-	637	610	-	592	575	-
Stage 2	-	-	-	-	-	-	587	559	-	647	608	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1096	-	-	1200	-	-	259	276	688	280	285	585
Mov Cap-2 Maneuver	-	-	-	-	-	-	259	276	-	280	285	-
Stage 1	-	-	-	-	-	-	613	587	-	571	564	-
Stage 2	-	-	-	-	-	-	554	548	-	628	585	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			0.1			16.4			16.1		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	327	1096	-	-	1200	-	-	375
HCM Lane V/C Ratio	0.034	0.019	-	-	0.006	-	-	0.133
HCM Control Delay (s)	16.4	8.3	0	-	8	0	-	16.1
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.5

Intersection						
Int Delay, s/veh	4.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	80	189	239	31	49	104
Future Vol, veh/h	80	189	239	31	49	104
Conflicting Peds, #/hr	11	0	0	11	0	6
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	6	7	9	7	9	5
Mvmt Flow	104	245	310	40	64	135

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	361	0	-	0	794 347
Stage 1	-	-	-	-	341 -
Stage 2	-	-	-	-	453 -
Critical Hdwy	4.16	-	-	-	6.49 6.25
Critical Hdwy Stg 1	-	-	-	-	5.49 -
Critical Hdwy Stg 2	-	-	-	-	5.49 -
Follow-up Hdwy	2.254	-	-	-	3.581 3.345
Pot Cap-1 Maneuver	1176	-	-	-	347 689
Stage 1	-	-	-	-	705 -
Stage 2	-	-	-	-	626 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1164	-	-	-	305 678
Mov Cap-2 Maneuver	-	-	-	-	305 -
Stage 1	-	-	-	-	626 -
Stage 2	-	-	-	-	620 -

Approach	EB	WB	SB
HCM Control Delay, s	2.5	0	17.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1164	-	-	-	487
HCM Lane V/C Ratio	0.089	-	-	-	0.408
HCM Control Delay (s)	8.4	0	-	-	17.4
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.3	-	-	-	2

## **D. HCM REPORTS – NO BUILD CONDITIONS**

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Intersection						
Int Delay, s/veh	5.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	1	27	23	8	10	1
Future Vol, veh/h	1	27	23	8	10	1
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	0	0	5	0	0	0
Mvmt Flow	1	36	31	11	14	1

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	89	16	16	0	0
Stage 1	16	-	-	-	-
Stage 2	73	-	-	-	-
Critical Hdwy	6.4	6.2	4.15	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.245	-	-
Pot Cap-1 Maneuver	917	1069	1582	-	-
Stage 1	1012	-	-	-	-
Stage 2	955	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	897	1068	1580	-	-
Mov Cap-2 Maneuver	897	-	-	-	-
Stage 1	991	-	-	-	-
Stage 2	954	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	5.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1580	-	1061	-	-
HCM Lane V/C Ratio	0.02	-	0.036	-	-
HCM Control Delay (s)	7.3	0	8.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	9	281	1	0	211	19	2	0	2	35	0	21
Future Vol, veh/h	9	281	1	0	211	19	2	0	2	35	0	21
Conflicting Peds, #/hr	2	0	4	4	0	2	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	71	71	71	71	71	71	71	71	71	71	71	71
Heavy Vehicles, %	22	12	0	0	12	0	0	0	0	0	0	0
Mvmt Flow	13	396	1	0	297	27	3	0	3	49	0	30

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	326	0	0	401	0	0	753	753	401	737	740	313
Stage 1	-	-	-	-	-	-	427	427	-	313	313	-
Stage 2	-	-	-	-	-	-	326	326	-	424	427	-
Critical Hdwy	4.32	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.398	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1129	-	-	1169	-	-	329	341	653	337	347	732
Stage 1	-	-	-	-	-	-	610	589	-	702	661	-
Stage 2	-	-	-	-	-	-	691	652	-	612	589	-
Platoon blocked, %		-	-	-	-	-						
Mov Cap-1 Maneuver	1127	-	-	1165	-	-	311	334	651	331	340	731
Mov Cap-2 Maneuver	-	-	-	-	-	-	311	334	-	331	340	-
Stage 1	-	-	-	-	-	-	598	578	-	690	660	-
Stage 2	-	-	-	-	-	-	663	651	-	600	578	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0	13.7	15.7
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	421	1127	-	-	1165	-	-	416
HCM Lane V/C Ratio	0.013	0.011	-	-	-	-	-	0.19
HCM Control Delay (s)	13.7	8.2	0	-	0	-	-	15.7
HCM Lane LOS	B	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.7



Intersection						
Int Delay, s/veh	8.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	178	134	118	57	46	119
Future Vol, veh/h	178	134	118	57	46	119
Conflicting Peds, #/hr	0	0	0	0	0	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	64	64	64	64	64	64
Heavy Vehicles, %	4	21	20	7	5	0
Mvmt Flow	278	209	184	89	72	186

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	273	0	0	994	233
Stage 1	-	-	-	229	-
Stage 2	-	-	-	765	-
Critical Hdwy	4.14	-	-	6.45	6.2
Critical Hdwy Stg 1	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	5.45	-
Follow-up Hdwy	2.236	-	-	3.545	3.3
Pot Cap-1 Maneuver	1279	-	-	268	811
Stage 1	-	-	-	802	-
Stage 2	-	-	-	454	-
Platoon blocked, %		-	-		
Mov Cap-1 Maneuver	1279	-	-	202	808
Mov Cap-2 Maneuver	-	-	-	202	-
Stage 1	-	-	-	605	-
Stage 2	-	-	-	454	-

Approach	EB	WB	SB
HCM Control Delay, s	4.9	0	24.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1279	-	-	-	440
HCM Lane V/C Ratio	0.217	-	-	-	0.586
HCM Control Delay (s)	8.6	0	-	-	24.1
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.8	-	-	-	3.7

Intersection						
Int Delay, s/veh	4.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	1	21	30	23	16	1
Future Vol, veh/h	1	21	30	23	16	1
Conflicting Peds, #/hr	0	1	6	0	0	6
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	0	0	3	0	7	0
Mvmt Flow	1	30	42	32	23	1

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	146	31	30	0	0
Stage 1	30	-	-	-	-
Stage 2	116	-	-	-	-
Critical Hdwy	6.4	6.2	4.13	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.227	-	-
Pot Cap-1 Maneuver	851	1049	1576	-	-
Stage 1	998	-	-	-	-
Stage 2	914	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	818	1042	1567	-	-
Mov Cap-2 Maneuver	818	-	-	-	-
Stage 1	965	-	-	-	-
Stage 2	909	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	4.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1567	-	1029	-	-
HCM Lane V/C Ratio	0.027	-	0.03	-	-
HCM Control Delay (s)	7.4	0	8.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

**Intersection**

Int Delay, s/veh 1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	17	276	5	6	330	46	6	0	3	21	0	20
Future Vol, veh/h	17	276	5	6	330	46	6	0	3	21	0	20
Conflicting Peds, #/hr	12	0	15	15	0	12	7	0	0	0	0	7
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	8	0	0	8	0	0	0	0	0	0	11
Mvmt Flow	21	337	6	7	402	56	7	0	4	26	0	24

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	470	0	0	358
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.1	-	-	4.1
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.2	-	-	2.2
Pot Cap-1 Maneuver	1102	-	-	1212
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %		-	-	-
Mov Cap-1 Maneuver	1089	-	-	1195
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.1	16.6	16.2
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	321	1089	-	-	1195	-	-	370
HCM Lane V/C Ratio	0.034	0.019	-	-	0.006	-	-	0.135
HCM Control Delay (s)	16.6	8.4	0	-	8	0	-	16.2
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.5

Intersection						
Int Delay, s/veh	4.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	81	192	243	31	50	106
Future Vol, veh/h	81	192	243	31	50	106
Conflicting Peds, #/hr	11	0	0	11	0	6
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	6	7	9	7	9	5
Mvmt Flow	105	249	316	40	65	138

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	367	0	-	0	806 353
Stage 1	-	-	-	-	347 -
Stage 2	-	-	-	-	459 -
Critical Hdwy	4.16	-	-	-	6.49 6.25
Critical Hdwy Stg 1	-	-	-	-	5.49 -
Critical Hdwy Stg 2	-	-	-	-	5.49 -
Follow-up Hdwy	2.254	-	-	-	3.581 3.345
Pot Cap-1 Maneuver	1170	-	-	-	342 684
Stage 1	-	-	-	-	700 -
Stage 2	-	-	-	-	622 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1158	-	-	-	300 673
Mov Cap-2 Maneuver	-	-	-	-	300 -
Stage 1	-	-	-	-	620 -
Stage 2	-	-	-	-	616 -

Approach	EB	WB	SB
HCM Control Delay, s	2.5	0	17.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1158	-	-	-	481
HCM Lane V/C Ratio	0.091	-	-	-	0.421
HCM Control Delay (s)	8.4	0	-	-	17.8
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.3	-	-	-	2.1

## **E. HCM REPORTS – BUILD CONDITIONS**

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Intersection						
Int Delay, s/veh	6.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	1	54	31	8	10	1
Future Vol, veh/h	1	54	31	8	10	1
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	0	0	5	0	0	0
Mvmt Flow	1	73	42	11	14	1

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	111	16	16	0	0
Stage 1	16	-	-	-	-
Stage 2	95	-	-	-	-
Critical Hdwy	6.4	6.2	4.15	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.245	-	-
Pot Cap-1 Maneuver	891	1069	1582	-	-
Stage 1	1012	-	-	-	-
Stage 2	934	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	865	1068	1580	-	-
Mov Cap-2 Maneuver	865	-	-	-	-
Stage 1	984	-	-	-	-
Stage 2	933	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	5.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1580	-	1063	-	-
HCM Lane V/C Ratio	0.027	-	0.07	-	-
HCM Control Delay (s)	7.3	0	8.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	12	281	1	0	211	24	2	0	2	51	0	32
Future Vol, veh/h	12	281	1	0	211	24	2	0	2	51	0	32
Conflicting Peds, #/hr	2	0	4	4	0	2	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	71	71	71	71	71	71	71	71	71	71	71	71
Heavy Vehicles, %	15	12	0	0	12	0	0	0	0	0	0	0
Mvmt Flow	17	396	1	0	297	34	3	0	3	72	0	45

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	333	0	0	401	0	0	772	768	401	748	751	316
Stage 1	-	-	-	-	-	-	435	435	-	316	316	-
Stage 2	-	-	-	-	-	-	337	333	-	432	435	-
Critical Hdwy	4.25	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.335	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1157	-	-	1169	-	-	319	334	653	331	342	729
Stage 1	-	-	-	-	-	-	604	584	-	699	659	-
Stage 2	-	-	-	-	-	-	681	647	-	606	584	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1155	-	-	1165	-	-	294	326	651	324	333	728
Mov Cap-2 Maneuver	-	-	-	-	-	-	294	326	-	324	333	-
Stage 1	-	-	-	-	-	-	590	571	-	684	658	-
Stage 2	-	-	-	-	-	-	639	646	-	592	571	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0	14	17.2
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	405	1155	-	-	1165	-	-	412
HCM Lane V/C Ratio	0.014	0.015	-	-	-	-	-	0.284
HCM Control Delay (s)	14	8.2	0	-	0	-	-	17.2
HCM Lane LOS	B	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	1.2

Intersection						
Int Delay, s/veh	8.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	181	147	122	57	46	120
Future Vol, veh/h	181	147	122	57	46	120
Conflicting Peds, #/hr	0	0	0	0	0	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	64	64	64	64	64	64
Heavy Vehicles, %	4	21	20	7	5	0
Mvmt Flow	283	230	191	89	72	188

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	280	0	-	0	1032 240
Stage 1	-	-	-	-	236 -
Stage 2	-	-	-	-	796 -
Critical Hdwy	4.14	-	-	-	6.45 6.2
Critical Hdwy Stg 1	-	-	-	-	5.45 -
Critical Hdwy Stg 2	-	-	-	-	5.45 -
Follow-up Hdwy	2.236	-	-	-	3.545 3.3
Pot Cap-1 Maneuver	1271	-	-	-	255 804
Stage 1	-	-	-	-	796 -
Stage 2	-	-	-	-	439 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1271	-	-	-	190 801
Mov Cap-2 Maneuver	-	-	-	-	190 -
Stage 1	-	-	-	-	593 -
Stage 2	-	-	-	-	439 -

Approach	EB	WB	SB
HCM Control Delay, s	4.8	0	26
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1271	-	-	-	424
HCM Lane V/C Ratio	0.223	-	-	-	0.612
HCM Control Delay (s)	8.6	0	-	-	26
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0.9	-	-	-	4

Intersection						
Int Delay, s/veh	5.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	1	39	58	23	16	1
Future Vol, veh/h	1	39	58	23	16	1
Conflicting Peds, #/hr	0	1	6	0	0	6
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	0	0	3	0	7	0
Mvmt Flow	1	55	82	32	23	1

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	226	31	30	0	0
Stage 1	30	-	-	-	-
Stage 2	196	-	-	-	-
Critical Hdwy	6.4	6.2	4.13	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.227	-	-
Pot Cap-1 Maneuver	767	1049	1576	-	-
Stage 1	998	-	-	-	-
Stage 2	842	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	718	1042	1567	-	-
Mov Cap-2 Maneuver	718	-	-	-	-
Stage 1	939	-	-	-	-
Stage 2	837	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	5.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1567	-	1030	-	-
HCM Lane V/C Ratio	0.052	-	0.055	-	-
HCM Control Delay (s)	7.4	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.2	-	-

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	28	276	5	6	330	63	6	0	3	32	0	27
Future Vol, veh/h	28	276	5	6	330	63	6	0	3	32	0	27
Conflicting Peds, #/hr	12	0	15	15	0	12	7	0	0	0	0	7
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	8	0	0	8	0	0	0	0	0	0	11
Mvmt Flow	34	337	6	7	402	77	7	0	4	39	0	33

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	491	0	0	358	0	0	901	928	355	877	893	460
Stage 1	-	-	-	-	-	-	423	423	-	467	467	-
Stage 2	-	-	-	-	-	-	478	505	-	410	426	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.31
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.399
Pot Cap-1 Maneuver	1083	-	-	1212	-	-	261	270	693	271	283	583
Stage 1	-	-	-	-	-	-	613	591	-	580	565	-
Stage 2	-	-	-	-	-	-	572	544	-	623	589	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1071	-	-	1195	-	-	232	251	683	257	263	572
Mov Cap-2 Maneuver	-	-	-	-	-	-	232	251	-	257	263	-
Stage 1	-	-	-	-	-	-	581	560	-	551	554	-
Stage 2	-	-	-	-	-	-	531	534	-	595	558	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.8			0.1			17.6			18.2		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	297	1071	-	-	1195	-	-	344
HCM Lane V/C Ratio	0.037	0.032	-	-	0.006	-	-	0.209
HCM Control Delay (s)	17.6	8.5	0	-	8	0	-	18.2
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.8



Intersection						
Int Delay, s/veh	5.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	83	201	257	31	50	109
Future Vol, veh/h	83	201	257	31	50	109
Conflicting Peds, #/hr	11	0	0	11	0	6
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	6	7	9	7	9	5
Mvmt Flow	108	261	334	40	65	142

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	385	0	-	0	842 371
Stage 1	-	-	-	-	365 -
Stage 2	-	-	-	-	477 -
Critical Hdwy	4.16	-	-	-	6.49 6.25
Critical Hdwy Stg 1	-	-	-	-	5.49 -
Critical Hdwy Stg 2	-	-	-	-	5.49 -
Follow-up Hdwy	2.254	-	-	-	3.581 3.345
Pot Cap-1 Maneuver	1152	-	-	-	325 668
Stage 1	-	-	-	-	687 -
Stage 2	-	-	-	-	610 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1140	-	-	-	283 657
Mov Cap-2 Maneuver	-	-	-	-	283 -
Stage 1	-	-	-	-	605 -
Stage 2	-	-	-	-	604 -

Approach	EB	WB	SB
HCM Control Delay, s	2.5	0	18.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1140	-	-	-	464
HCM Lane V/C Ratio	0.095	-	-	-	0.445
HCM Control Delay (s)	8.5	0	-	-	18.8
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.3	-	-	-	2.2

## F. LEFT TURN LANE WARRANT EVALUATION

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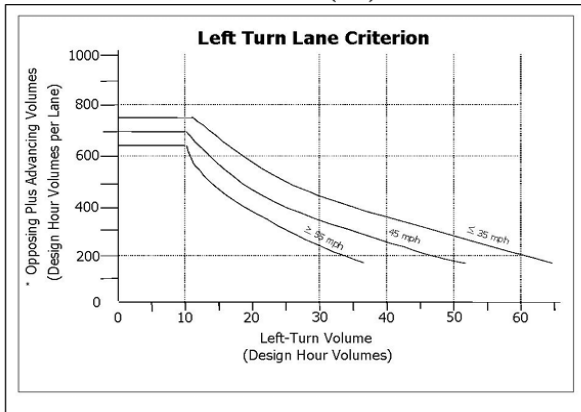
**Willamina Ridgefield Heights TIA  
Left Turn Lane Warrants**

According to the ODOT Analysis Procedures Manual Section 12.2.1, a left turn lane is warranted if any of the three following criteria are met:

- Criterion 1: Volume thresholds analyzed using Exhibit 12-1
- Criterion 2: History of crashes that may be mitigated by a left turn lane
- Criterion 3: Special cases such as nearby railroad crossings, geometric or sight distance concerns, or the presence of a non-traversable mediar

**Criterion 1**

**Exhibit 12-1 Left Turn Lane Criterion (TTI)**



\* (Advancing Volume/Number of Advancing Through Lanes) + (Opposing Volume/Number of Opposing Through Lanes)  
Opposing left turns are not counted as opposing volumes

Study Intersection	No Build Volumes					
	AM Opposing + Advancing Volumes	AM Left Turns	Above Line on Exhibit 12-1?	PM Opposing + Advancing Volumes	PM Left Turns	Above Line on Exhibit 12-1?
NW Willamina Drive & NW B Street	42	23	No	70	30	No
NE Main Street & NW B Street		9	No	675	17	Yes
NE Main Street & NE Oaken Hills Drive	487	178	Yes	547	81	Yes

Note: Speed Limit = 25 mph

Study Intersection	Build Volumes					
	AM Opposing + Advancing Volumes	AM Left Turns	Above Line on Exhibit 12-1?	PM Opposing + Advancing Volumes	PM Left Turns	Above Line on Exhibit 12-1?
NW Willamina Drive & NW B Street	50	31	No	98	58	No
NE Main Street & NW B Street	529	12	No	702	28	Yes
NE Main Street & NE Oaken Hills Drive	507	181	Yes	572	83	Yes

Note: Speed Limit = 25 mph

**Criterion 2**

Study Intersection	Number of EB Left-Turn Related Crashes	History of Crashes?
NW Willamina Drive & NW B Street	0	No
NE Main Street & NW B Street	0	No
NE Main Street & NE Oaken Hills Drive	0	No

**Criterion 3**

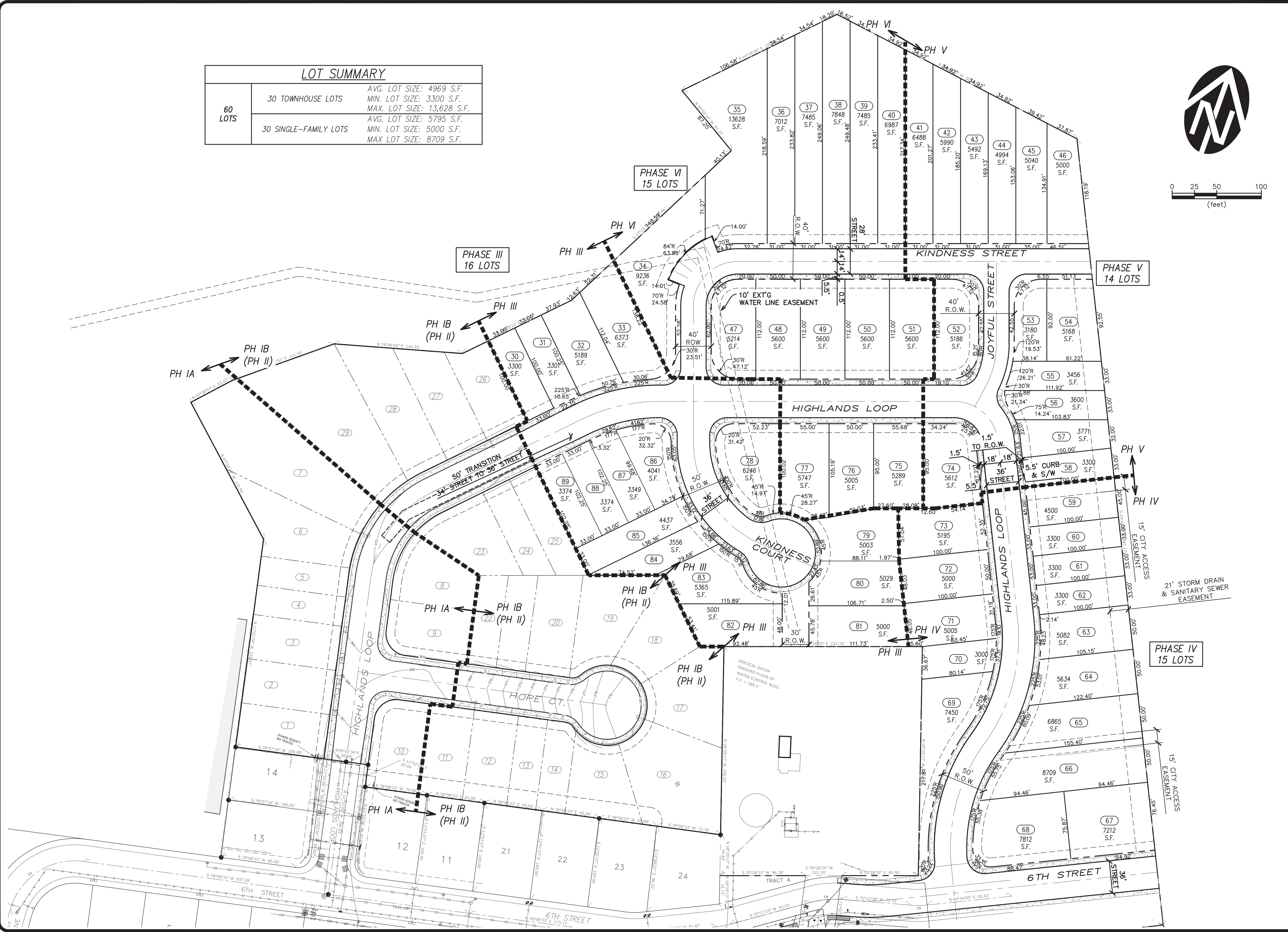
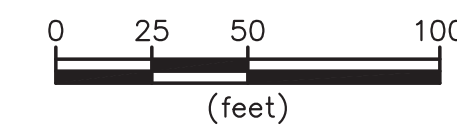
Study Intersection	Special Circumstances?
NW Willamina Drive & NW B Street	No
NE Main Street & NW B Street	No
NE Main Street & NE Oaken Hills Drive	No

## G. SITE PLAN

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LOT SUMMARY		
60 LOTS	30 TOWNHOUSE LOTS	AVG. LOT SIZE: 4969 S.F. MIN. LOT SIZE: 3300 S.F. MAX. LOT SIZE: 13,628 S.F.
	30 SINGLE-FAMILY LOTS	AVG. LOT SIZE: 5795 S.F. MIN. LOT SIZE: 5000 S.F. MAX. LOT SIZE: 8709 S.F.



NO.	DATE	DESCRIPTION	BY
1			

VERIFY SCALE  
 THIS IS ONE INCH ON ORIGINAL DRAWING  
 IF NOT ONE INCH ON SCALES ACCURACELY

DSN. SW  
 DRN. RS  
 CKD. SW  
 DATE: 04/2023



**WESTTECH ENGINEERING, INC.**  
 CONSULTING ENGINEERS AND PLANNERS

3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302  
 Phone: (503) 585-2474 Fax: (503) 585-3966  
 E-mail: westtech@westtech-eng.com

TIM WENGER  
 RIDGEVIEW SUBDIVISION - PHASES III - VI  
 PRELIMINARY PLAT PLAN

DRAWING  
 G-5  
 JOB NUMBER  
 3154.2000

4/6/2023, 7:55:18 AM  
 R:\Dwg\WENGER\Williamina Highlands\ Ridgeview Subdivision Ph. II\Civil\Plots\PD-OA SUB Plan.dwg, (G-5 tab)