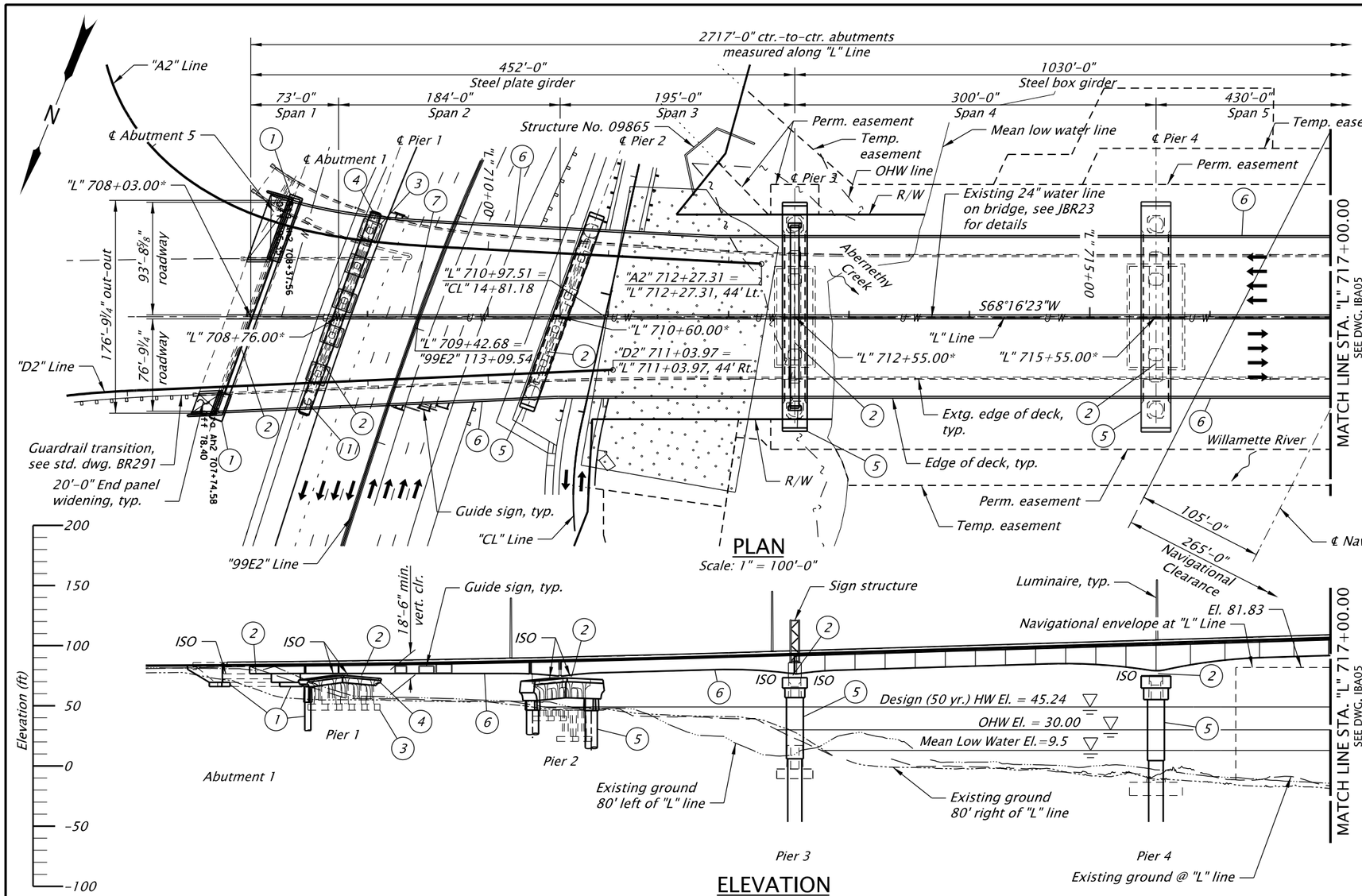
DRAFT - NOT FOR CONSTRUCTION - SUBJECT TO CHANGE



PLAN

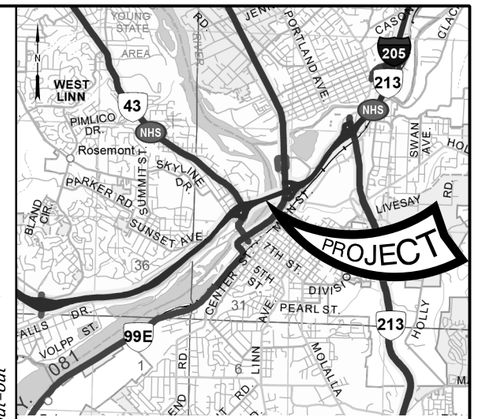
Scale: 1" = 100'-0"

ELEVATION

Scale: 1" = 100'-0"

* Station at intersection of ℄ Pier and alignment line.

Remaining portions of existing structure shown approximately at "L" Line.
Proposed structure shown approximately at right edge of mainline structure.



SEC. 29 & 30, T.2S., R.2E., W.M.
LAT. 45.36416, LONG. -122.60513

LOCATION MAP

No Scale

WORK ITEMS

1. Substructure widening
2. Bearing replacement
3. Pile cap retrofit
4. Crossbeam enlargement
5. Substructure replacement
6. Superstructure widening
7. Bridge rail retrofit (Spans 1-3 and 7-15)
8. Column enlargement
9. Micropiles

LEGEND:

Ground improvements

Notes:

1. Elevations shown are based on North American Vertical Datum (1988).
2. ISO indicates the end of the span is supported by an isolation bearing. Where only one ISO is noted at a Pier, the superstructure is continuous across that Pier.
3. Rail mounted signs, deck drains, and illumination locations are provided on the Deck Plan sheets.
4. Drilled shaft, pile cap, and foundation elevations are provided on the JBD sheets.
5. Ground improvement layout details are provided on sheets JBD31-JBD33.

HYDRAULIC DATA

ITEMS	(UNITS)	DESIGN FLOOD	BASE FLOOD	MAX. PROBABLE FLOOD
DISCHARGE	(cfs)	295,000	341,000	469,000
RECURRENCE INTERVAL	(yrs.)	50	100	500
H.W. ELEVATION AT UPSTREAM FACE OF BRIDGE ALONG EMBANKMENT	(ft.)	45.24	48.66	56.35
BACKWATER	(ft.)	0.02	0.03	0.04
SCOUR ELEVATION	(ft.)	N/A	See hydraulics report	

SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

ACCOMPANIED BY DWGS.:
JBA01 thru JBN11

STRUCTURE NO. 09403
BDS DWG NO.
CALC. BOOK
HWY: 064
M.P.: 9.03
COUNTY: Clackamas
DATE: 03/21

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HDR ENGINEERING, INC
1050 SW 6TH AVENUE, SUITE 1800
PORTLAND, OR 97204-1134
503.423.3700

WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

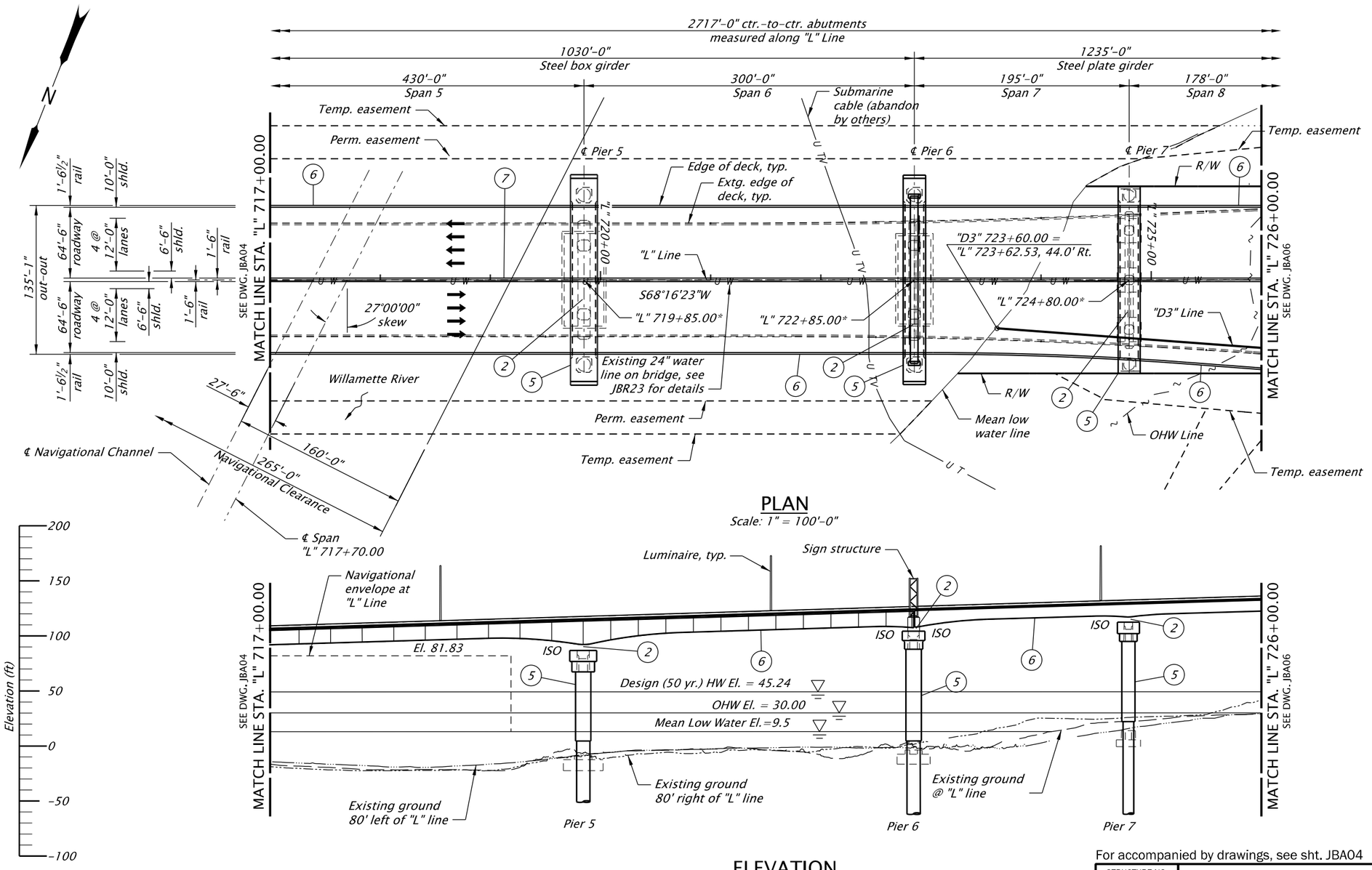
I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Mikal Mitchell
Reviewer: Jeff Olson
Drafter: Heather Gonsior
Checker: Quincy Engineering

PLAN AND ELEVATION - 1

SHEET NO. JBA04

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST



PLAN
Scale: 1" = 100'-0"

ELEVATION
Scale: 1" = 100'-0"

Remaining portions of existing structure shown approximately at "L" Line.
Proposed structure shown approximately at right edge of mainline structure.

WORK ITEMS

1. Substructure widening
2. Bearing replacement
3. Pile cap retrofit
4. Crossbeam enlargement
5. Substructure replacement
6. Superstructure widening
7. Bridge rail retrofit (Spans 1-3 and 7-15)
8. Column enlargement
9. Micropiles

Notes:

1. *Elevations shown are based on North American Vertical Datum (1988).*
2. *ISO indicates the end of the span is supported by an isolation bearing. Where only one ISO is noted at a Pier, the superstructure is continuous across that Pier.*
3. *Rail mounted signs, deck drains, and illumination locations are provided on the Deck Plan sheets.*
4. *Drilled shaft, pile cap, and foundation elevations are provided on the JBD sheets.*

* *Station at intersection of ℄ Pier and alignment line.*

For accompanied by drawings, see sht. JBA04

STRUCTURE NO.	09403
BDS DWG NO.	
CALC. BOOK	
HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
DATE	03/21

SCALE WARNING
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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

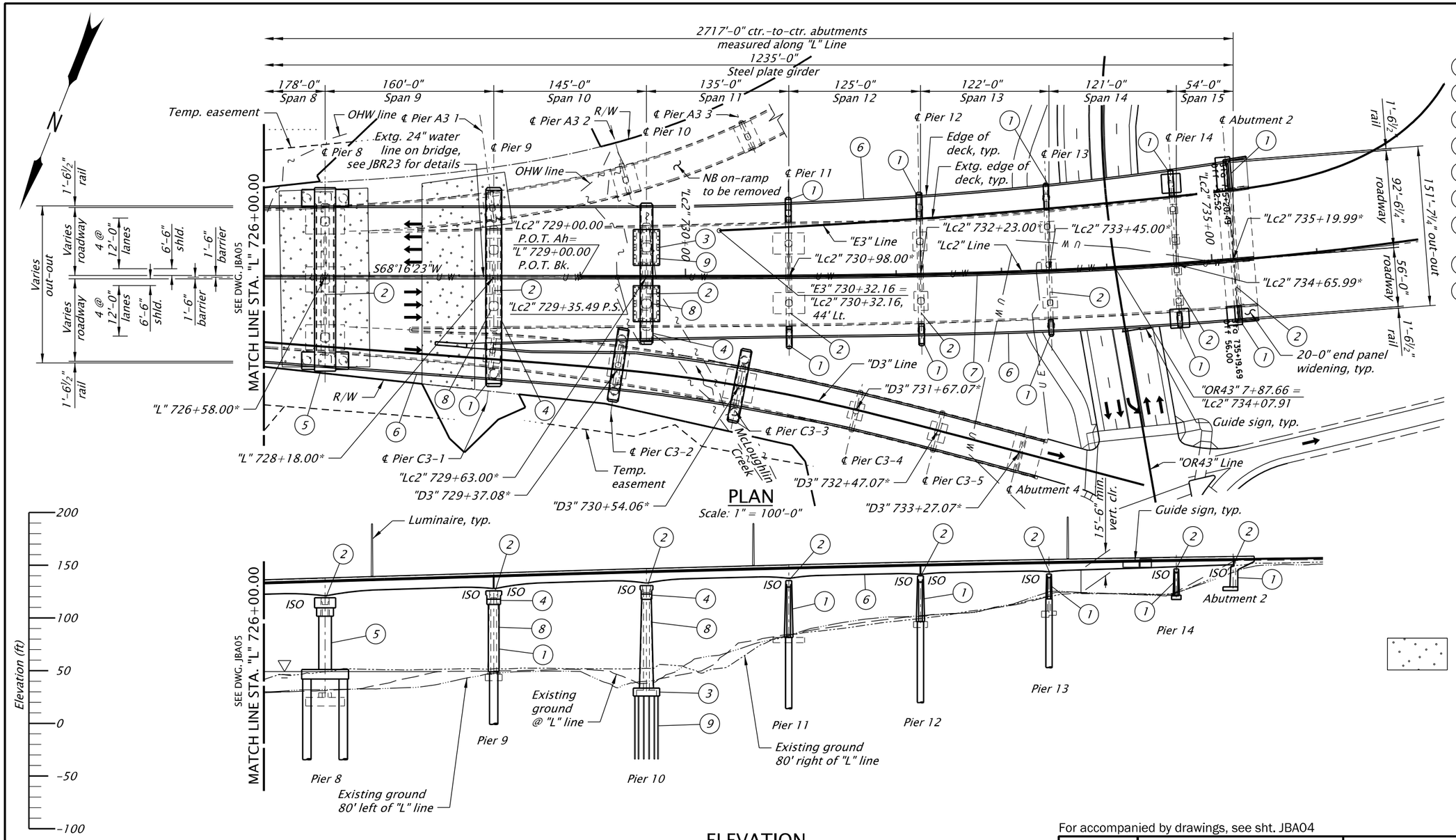
I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Mikal Mitchell | Reviewer: Jeff Olson
Drafter: Heather Gonsior | Checker: Quincy Engineering

PLAN AND ELEVATION - 2

SHEET NO. JBA05

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST



WORK ITEMS

1. Substructure widening
2. Bearing replacement
3. Pile cap retrofit
4. Crossbeam enlargement
5. Substructure replacement
6. Superstructure widening
7. Bridge rail retrofit (Spans 1–3 and 7–15)
8. Column enlargement
9. Micropiles

LEGEND:

Ground improvements

ELEVATION

Scale: 1" = 100'-0"

Remaining portion of existing structure shown approximately at "L" line.
Proposed structure shown approximately at right edge of mainline structure.

* Station at intersection of ℄ Pier and alignment line.

Notes:

1. Elevations shown are based on North American Vertical Datum (1988).
2. ISO indicates the end of the span is supported by an isolation bearing. Where only one ISO is noted at a Pier, the superstructure is continuous across that Pier.
3. Rail mounted signs, deck drains, and illumination locations are provided on the Deck Plan sheets.
4. Drilled shaft, pile cap, and foundation elevations are provided on the JBD sheets.
5. Ground improvement layout details are provided on sheets JBD31–JBD33.

For accompanied by drawings, see sht. JBA04

STRUCTURE NO.	09403
BDS DWG NO.	
CALC. BOOK	
HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
DATE	03/21

SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

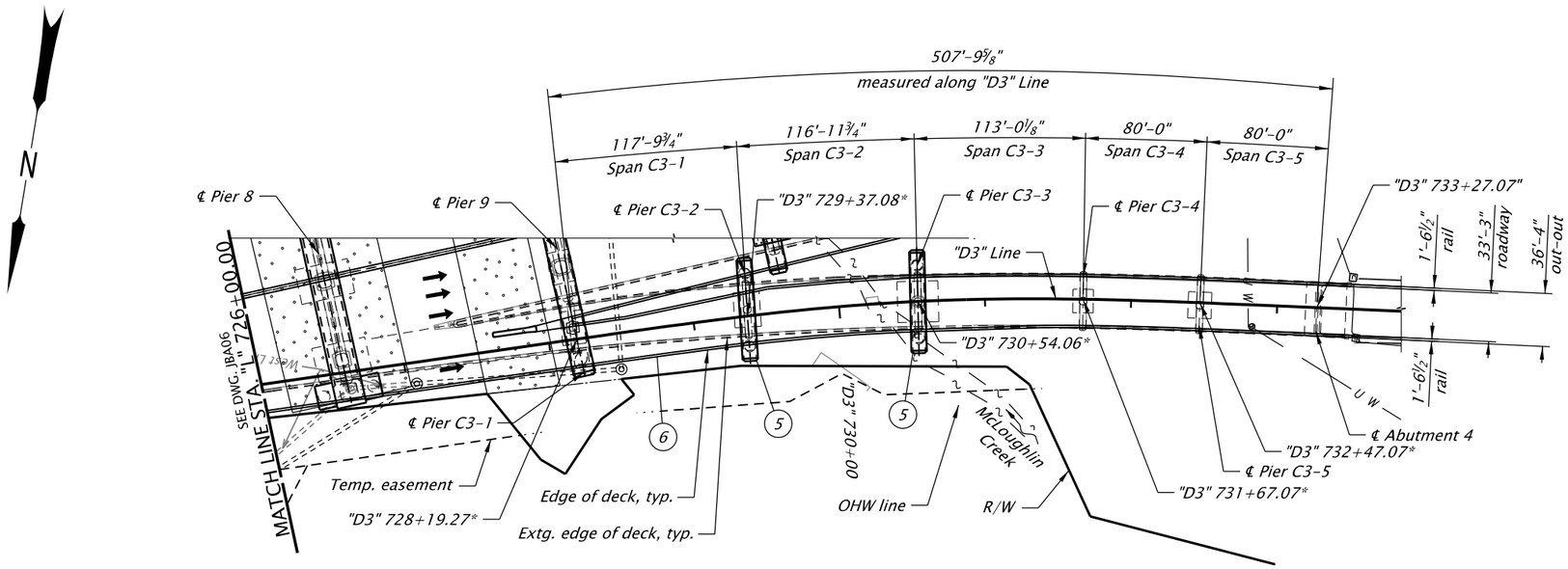
I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Mikal Mitchell
Reviewer: Jeff Olson
Drafter: Heather Gonsior
Checker: Quincy Engineering

PLAN AND ELEVATION - 3

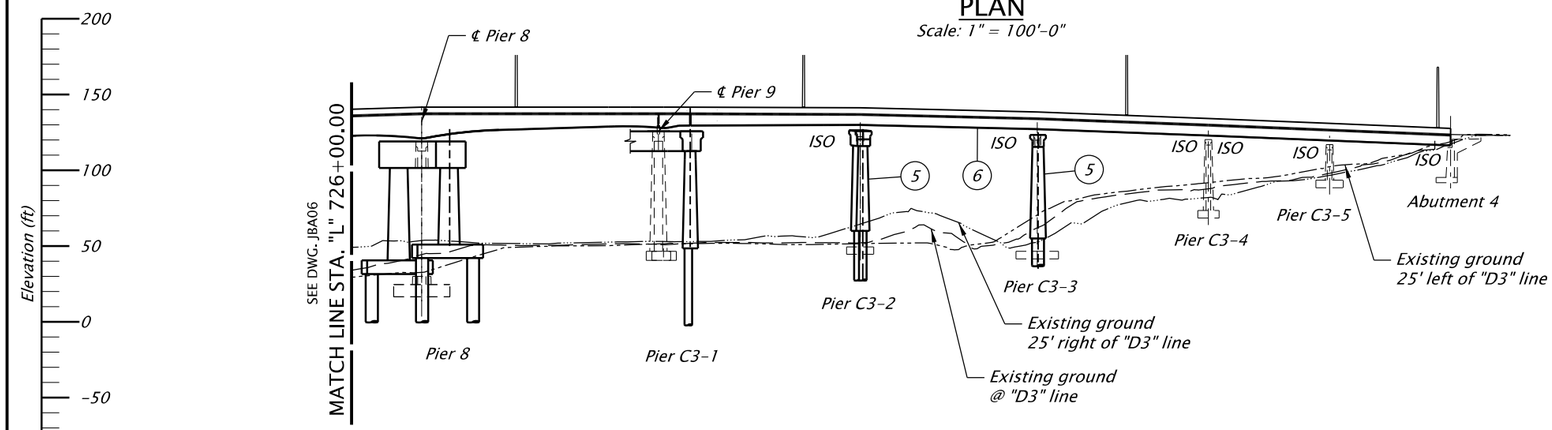
SHEET NO. JBA06

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST



PLAN

Scale: 1" = 100'-0"



* Station at intersection of ℄ Pier and alignment line.

ELEVATION

Scale: 1" = 100'-0"

Remaining portions of existing structure shown approximately at "D3" Line.
Proposed structure shown approximately at right edge of structure.

WORK ITEMS

1. Substructure widening
2. Bearing replacement
3. Pile cap retrofit
4. Crossbeam enlargement
5. Substructure replacement
6. Superstructure widening
7. Bridge rail retrofit
8. Column enlargement
9. Micropiles

LEGEND:

Ground improvements

Notes:

1. Elevations shown are based on North American Vertical Datum (1988).
2. ISO indicates the end of the span is supported by an isolation bearing. Where only one ISO is noted at a Pier, the superstructure is continuous across that Pier.
3. Drilled shaft elevations are provided on the JBD sheets.

For accompanied by drawings, see sht. JBA04

STRUCTURE NO.	09403
BDS DWG NO.	
CALC. BOOK	
HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
DATE	03/21

SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

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I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Mikal Mitchell
Reviewer: Jeff Olson
Drafter: Heather Gonsior
Checker: Quincy Engineering

PLAN AND ELEVATION - RAMP C3

SHEET NO. JBA07

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

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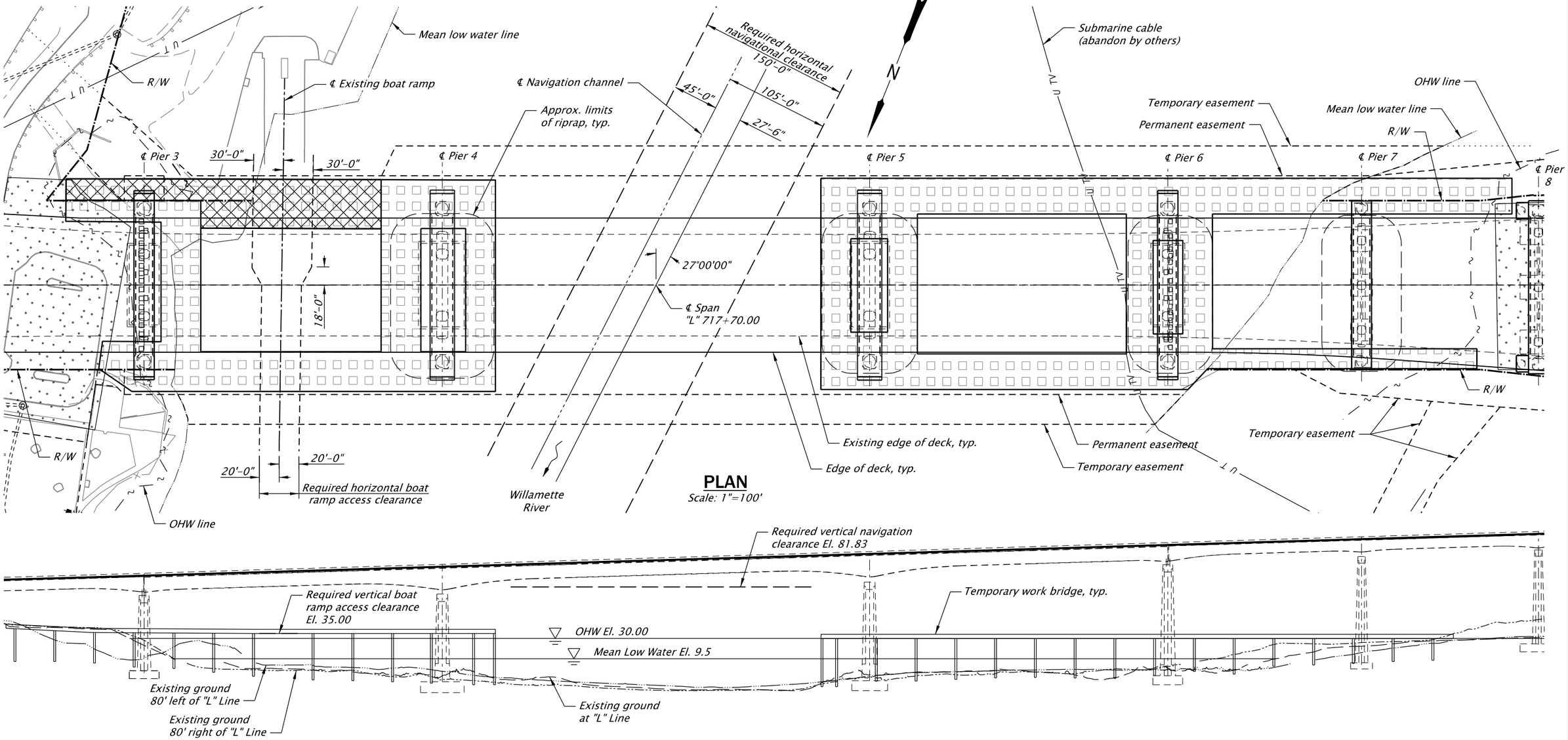

Notes:

1. *The location and limits of the temporary work bridge shown are only to alert the Contractor that a temporary work bridge may be needed. The Contractor shall determine the location and limits necessary.*
2. *The temporary work bridge shall be designed by the Contractor to resist all forces imposed by equipment necessary to complete the work including but not limited to equipment for drilled shaft construction.*
3. *Existing riprap removal may be necessary to construct work bridge, drilled shafts, and columns.*

Legend

- *Temporary work bridge*
- *Temporary work bridge limited to less than 18 months above the boat ramp access*
- *Ground improvements*

SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

STRUCTURE NO.	09403
BDS DWG NO.	
CALC. BOOK	
HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
DATE	03/21

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WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

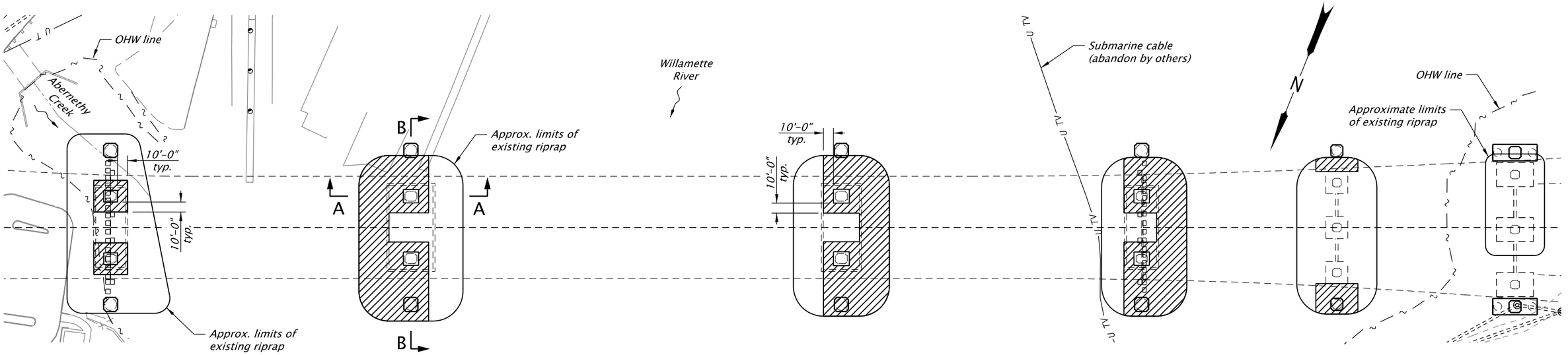
I-205: I-5 - OR213, PHASE 1 SEC.

EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

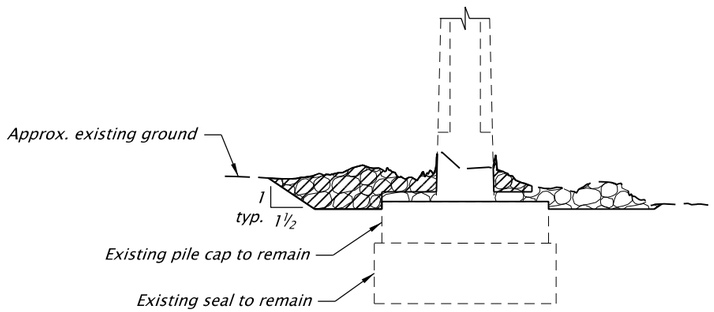
Designer: Mikal Mitchell | Reviewer: Jeff Olson
Drafter: Heather Gonsior | Checker: Quincy Engineering

CONSTRUCTION CLEARANCES

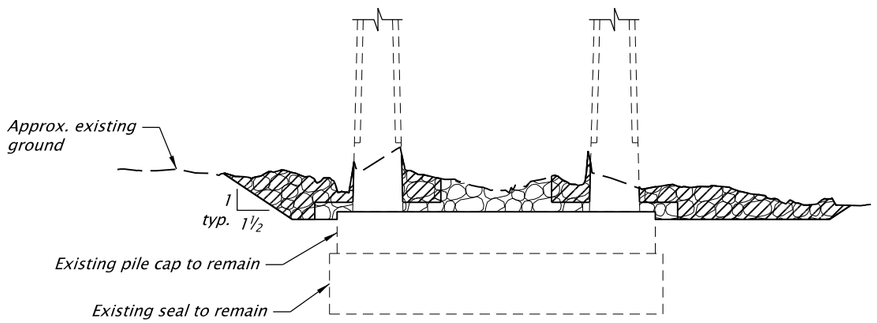
SHEET NO. JBA13



PLAN
Scale: 1"=100'



SECTION A-A
Scale: 1"=40'
Pier 4 shown, other piers similar.



SECTION B-B
Scale: 1"=40'
Pier 4 shown, other piers similar.

Legend

- Required Riprap Removal
- OHW Line
- Extg. Ground
- Estimated Existing Riprap

RIPRAP REMOVAL ELEVATION TABLE

Location	Left Column Elev. (ft.)	Right Column Elev. (ft.)
Pier 3	10.0	16.0
Pier 4	-11.0	-11.0
Pier 5	-11.0	-11.0
Pier 6	-7.0	-5.0

Left and right column are designated by looking ahead on station.

Notes:

Riprap locations and extg. elevations are approximate and for reference only. Actual riprap location and depths vary. For additional information, as-built information available on request.

Within required riprap removal limits, remove riprap to the elevation shown in Riprap Removal ElevationTable when within 10 feet of existing columns or when within the limits of the existing pile cap, whichever is more. In all other required riprap removal areas, remove riprap to the elevation that it is present.

Additional riprap removal beyond required riprap removal limits is at the discretion of the contractor.

For accompanied by drawings, see sht. JBA04

SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

STRUCTURE NO.	09403
BDS DWG NO.	
CALC. BOOK	
HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
DATE	03/21

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WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Name | Reviewer: Name
Drafter: Name | Checker: Name

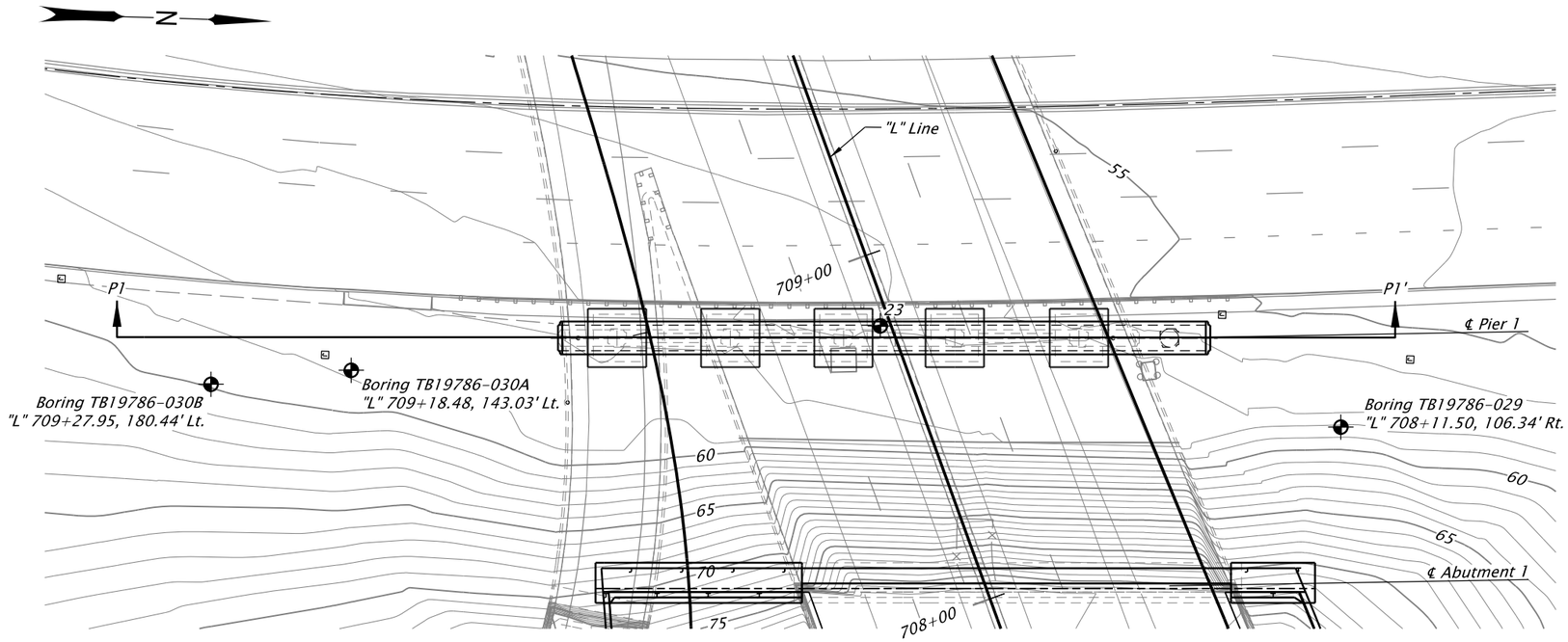
RIPRAP REMOVAL

SHEET NO. JBA14

LEGEND

= *Boring location (See Note 4)*

= *Cone Penetrometer Test Location (See Note 2)*



PLAN

Scale: 1"=40'-0"

GENERAL NOTES:

1. *Elevations are based on North American Vertical Datum (1988).*
2. *See Geotechnical Data Report for data obtained through cone penetrometer testing and OYO suspension logging.*
3. *1' Contour Interval*
4. *Approximate location of boring 23 is shown for information only. The geotechnical report (Dames & Moore, 1966) is included in the Geotechnical Engineering Report for the Abernethy Bridge, provided as a reference document.*

SCALE WARNING

If scale bar doesn't measure one inch then drawing is not to scale

STRUCTURE NO.	09403
BDS DWG NO.	00000
CALC. BOOK	0000
HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
DATE	05/21

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3990 Collins Way, Suite 100
Lake Oswego, Oregon 97035
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www.shannonwilson.com

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: James Walters — Reviewer: Risheng "Park" Piao

Drafter: Aimee Holmes — Checker: Cody Sorensen

PIER 1 GEOTECHNICAL DATA - 1

SHEET NO. JBC03

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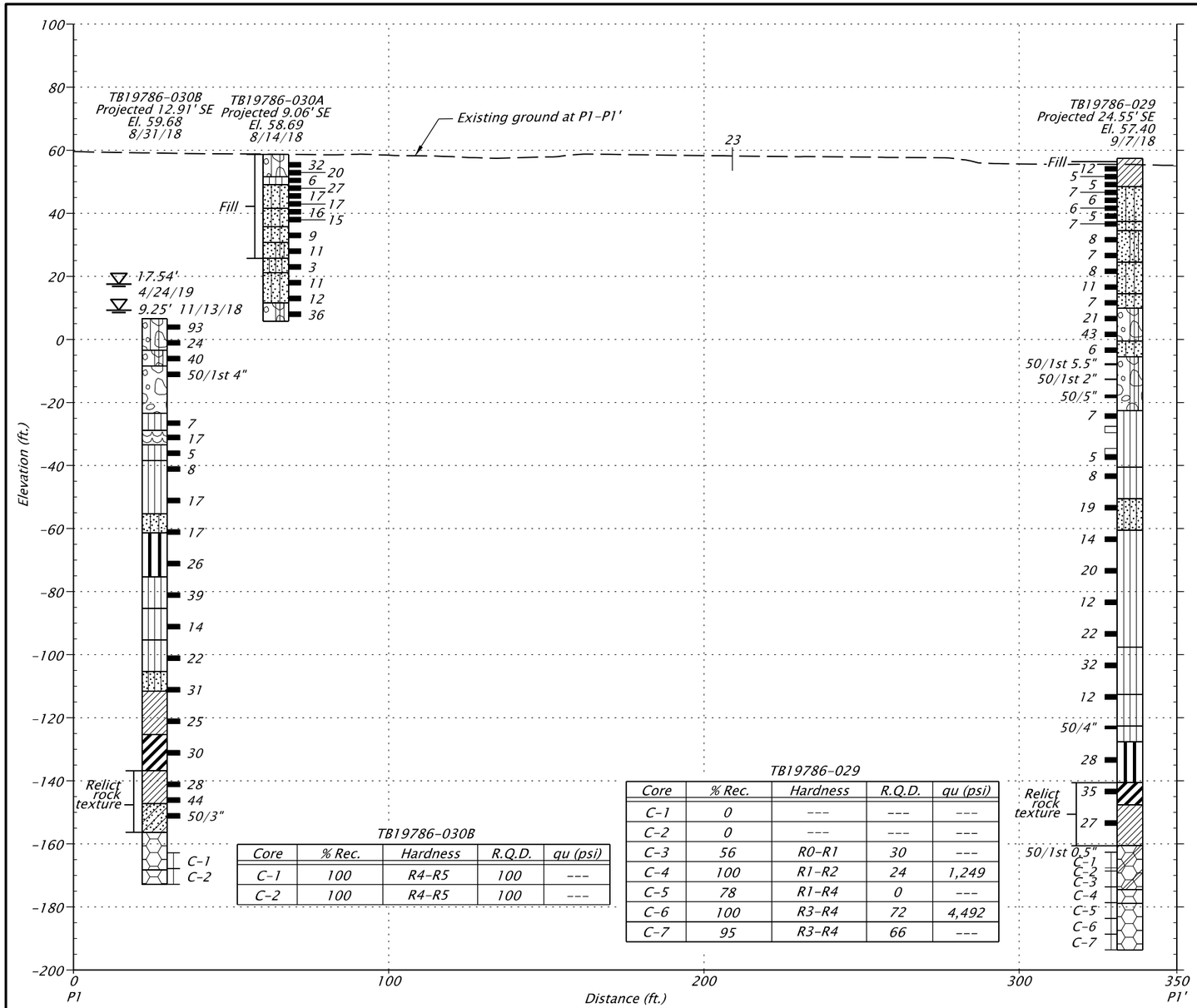

TB19786-030B

Core	% Rec.	Hardness	R.Q.D.	qu (psi)
C-1	100	R4-R5	100	---
C-2	100	R4-R5	100	---

TB19786-029

Core	% Rec.	Hardness	R.Q.D.	qu (psi)
C-1	0	---	---	---
C-2	0	---	---	---
C-3	56	R0-R1	30	---
C-4	100	R1-R2	24	1,249
C-5	78	R1-R4	0	---
C-6	100	R3-R4	72	4,492
C-7	95	R3-R4	66	---

CROSS SECTION AT P1-P1'

Scale: 1" = 40'-0"

LEGEND

- 20 = 'N'-value; Uncorrected (raw) standard penetration resistance in accordance with ASTM D1586 (See Note 2)
- ▭ = Undisturbed sample (ASTM D1587)
- C-1 = HQ3 core sample (ASTM D2113)
- R.Q.D. = Rock quality designation
- ▽ = Measured groundwater level (See Note 7)
- 00.00' = Elevation
- MM/DD/YY = Date of measurement

- Asphalt Concrete
- Base Aggregate
- Topsoil
- Clay
- Silty Clay and Clay
- Clayey Silt
- Silt and Clayey Silt
- Organic Clayey Silt
- Sand
- Sand
- Gravel
- Boulders and Cobbles
- Siltstone
- Basalt Breccia
- Weathered Basalt
- Basalt

SCALE WARNING

If scale bar doesn't measure one inch then drawing is not to scale

UNIT DESCRIPTIONS

- Sandy silty GRAVEL and Silty GRAVEL with some sand, with cobbles; GM; Brown, light brown, dark brown, and gray: Nonplastic to low plasticity fines; Moist to wet; Medium dense to very dense; Some zones of fill
- Silty CLAY with trace sand to Silty CLAY and Silty CLAY to CLAY with trace sand; CL, CL/CH; Brown, light brown, gray, dark brown, dark gray, blue-gray, dark green, green-gray, and orange-brown; Low to medium plasticity; Moist to wet; Medium stiff to hard; Some zones of relict rock texture; Some zones of fill
- SILT to SILT with some sand and SILT with some sand with trace gravel; ML; Gray, dark brown, and dark gray; Nonplastic to low plasticity; Moist to wet; Loose to very dense and medium stiff to hard; Some zones of fill
- Silty SAND, Silty SAND to Sandy SILT, and Silty SAND with trace gravel; SM, SM/ML; Brown, light brown, dark brown, gray, dark gray, and brown mottled orange-brown; Nonplastic to low plasticity fines; Moist to wet; Loose to medium dense; Some zones of fill
- SAND with some silt; SP-SM; Light brown to brown; Nonplastic fines; Moist to wet; Loose to medium dense; Some zones of fill
- Sandy SILT; ML; Gray, dark gray, and brown; Nonplastic to low plasticity; Moist to wet; Soft and medium dense to dense
- Sandy GRAVEL with some silt; GP-GM; Brown and gray to tan, brown, gray, dark brown, and black; Nonplastic fines; Wet; Medium dense to very dense
- Sandy GRAVEL with trace silt; GP; Dark brown to black; Nonplastic fines; Wet; Very dense
- Organic clayey SILT with trace sand; OH; Dark gray; High plasticity; Wet; Medium stiff to stiff
- Clayey SILT; MH; Dark gray and brown; Medium to high plasticity; Moist to wet; Very stiff
- CLAY to CLAY with trace sand; CH; Gray, dark gray, brown, tan, and dark green; Medium to high plasticity; Moist; Very stiff to hard; Some zones of relict rock texture
- Clayey SAND with some gravel; SC; Orange-brown, dark gray, brown, and green-gray; Low to medium plasticity fines; Moist to wet; Very dense; Relict rock texture
- WEATHERED BASALT; Brown-gray to gray and orange-brown; Predominantly decomposed; (R0-R1); Very close to close jointed
- BASALT; Gray and brown; Predominantly decomposed to fresh; (R1-R5); Very close to wide jointed

GENERAL NOTES:

1. Elevations are based on North American Vertical Datum (1988).
2. Boring TB19786-029 was sampled with a hammer efficiency of 88% and borings TB19876-030A and TB19876-030B were sampled with a hammer efficiency of 90%.
3. See Geotechnical Data Report for data obtained through cone penetrometer testing and OYO suspension logging.
4. Approximate location of boring 23 is shown for information only. The geotechnical report (Dames & Moore, 1966) is included in the Geotechnical Engineering Report for the Abernethy Bridge, provided as a reference document.
5. Geotechnical data shown on this drawing are a consolidation of information and/or revision in terminology from the drill logs. More detailed subsurface data is available on the drill logs in the geotechnical report, which is available from the Engineer.
6. Refer to the ODOT Soil and Rock Classification Manual (1987) for a description of the terms used on this sheet.
7. Borings were drilled using mud rotary and coring drilling techniques, which make it difficult to discern depth to groundwater during drilling, if it is encountered, due to the use of drilling fluid in the boreholes.
8. BOULDER ADVISORY: Boulders and cobbles were encountered during drilling for this and other nearby features and are noted on the drill logs. Boulders and cobbles may be encountered throughout the project area.

STRUCTURE NO.	09403
BDS DWG NO.	00000
CALC. BOOK	0000
HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
DATE	05/21

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WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: James Walters | Reviewer: Risheng "Park" Piao
Drafter: Aimee Holmes | Checker: Cody Sorensen

PIER 1 GEOTECHNICAL DATA - 2

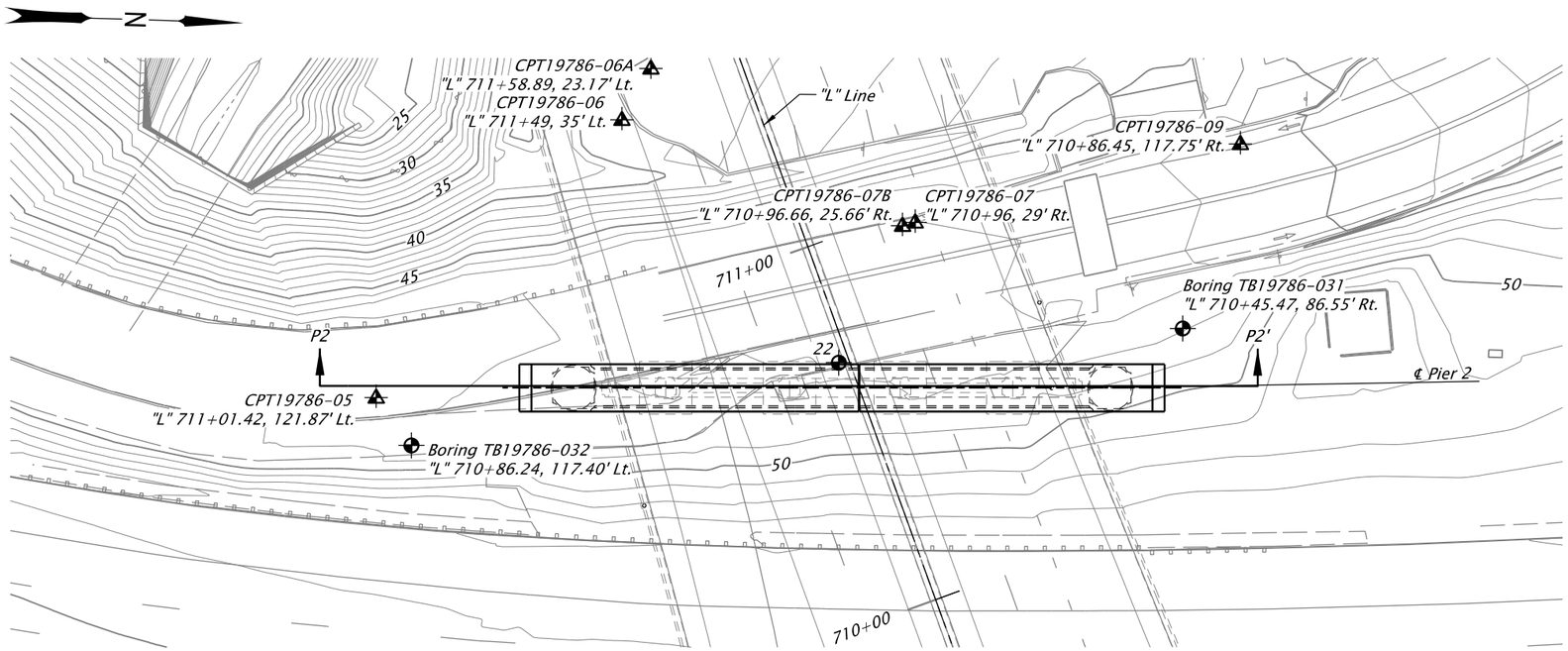
SHEET NO. JBC04

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

LEGEND

= *Boring location (See Note 4)*

= *Cone Penetrometer Test Location (See Note 2)*



PLAN

Scale: 1"=40'-0"

GENERAL NOTES:

1. *Elevations are based on North American Vertical Datum (1988).*
2. *See Geotechnical Data Report for data obtained through cone penetrometer testing and OYO suspension logging.*
3. *1' Contour Interval*
4. *Approximate location of boring 22 is shown for information only. The geotechnical report (Dames & Moore, 1966) is included in the Geotechnical Engineering Report for the Abernethy Bridge, provided as a reference document.*

SCALE WARNING

If scale bar doesn't measure one inch then drawing is not to scale

STRUCTURE NO.	09403
BDS DWG NO.	00000
CALC. BOOK	0000
HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

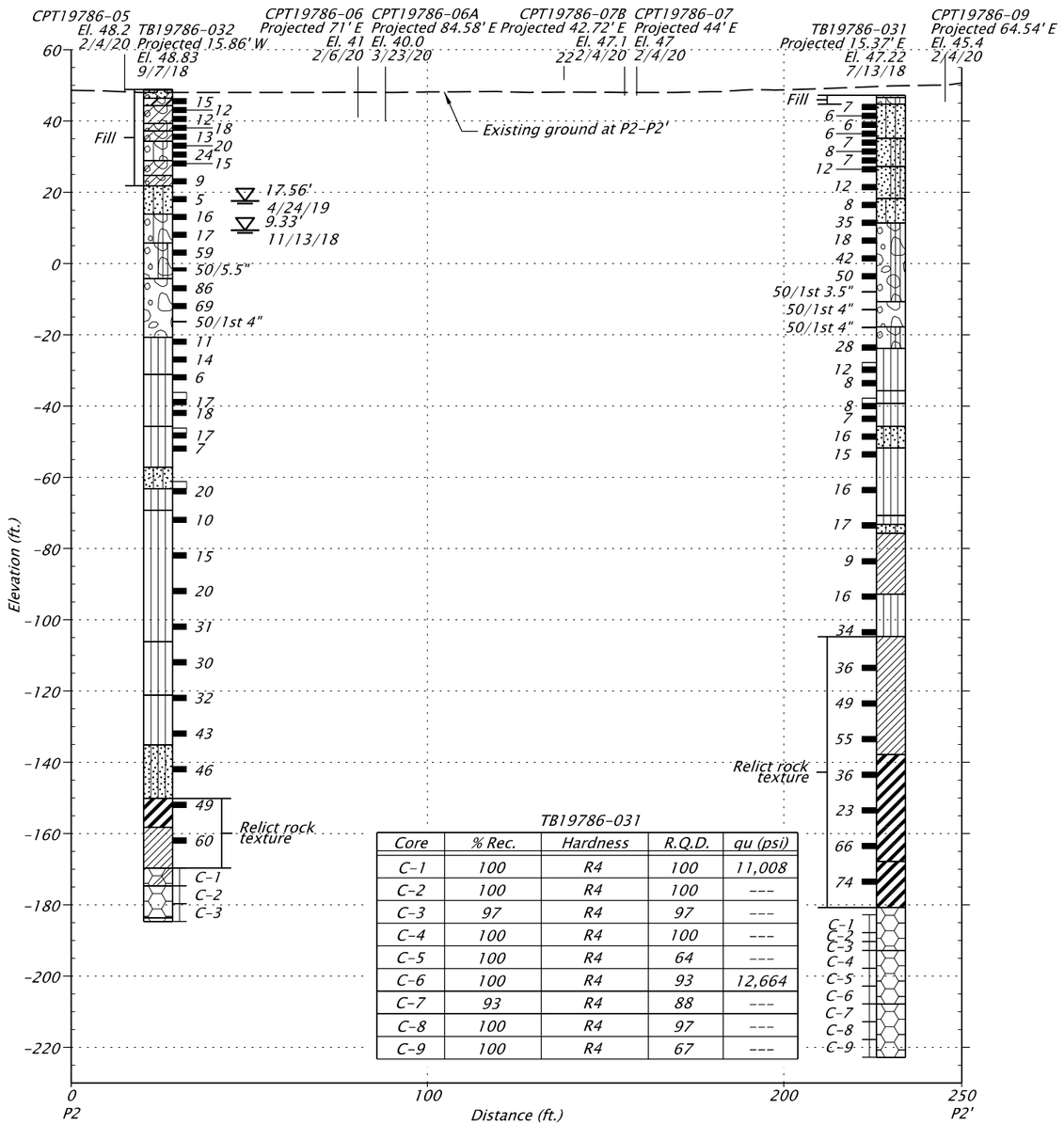
I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: James Walters — Reviewer: Risheng "Park" Piao
Drafter: Aimee Holmes — Checker: Cody Sorensen

PIER 2 GEOTECHNICAL DATA - 1

SHEET NO. JBC05

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST



TB19786-031

Core	% Rec.	Hardness	R.Q.D.	qu (psi)
C-1	100	R4	100	11,008
C-2	100	R4	100	---
C-3	97	R4	97	---
C-4	100	R4	100	---
C-5	100	R4	64	---
C-6	100	R4	93	12,664
C-7	93	R4	88	---
C-8	100	R4	97	---
C-9	100	R4	67	---

CROSS SECTION AT P2-P2'

Scale: 1" = 40'-0"

UNIT DESCRIPTIONS

- Asphalt Concrete
- Base Aggregate
- Sandy SILT; ML; Gray and brown; Nonplastic; Dry to wet; Medium dense to dense; Some zones of fill
- Silty SAND and interbedded Silty SAND and SILT; SM, SM/ML; Brown and gray; Nonplastic to low plasticity fines; Moist to wet; Loose to dense; Some zones of wood or logs
- Silty GRAVEL with sand and Sandy silty GRAVEL; GM; Gray and orange-brown to brown; Moist to wet; Nonplastic to low plasticity fines; Medium dense; Some zones of fill
- Gravelly CLAY with some sand; CH; Gray and brown; High plasticity; Moist; Stiff to very stiff; Fill
- Clayey GRAVEL with some sand to Sandy clayey GRAVEL, with cobbles; GC; Brown and orange-brown; Medium to high plasticity fines; Moist to wet; Medium dense; Fill
- Gravelly silty CLAY with some sand; CL; Gray; High plasticity; Wet; Medium stiff; Fill
- SAND with some silt; SP-SM; Brown; Nonplastic fines; Moist to wet; Loose to medium dense
- Sandy GRAVEL with some silt, with cobbles; GP-GM; Gray, brown, gray-orange, and orange-brown; Nonplastic to low plasticity fines; Wet; Medium dense to very dense
- Sandy GRAVEL with trace silt, with cobbles and boulders; GP; Gray, brown, and dark gray-brown; Nonplastic fines; Wet; Very dense
- SILT to SILT with some sand; ML; Gray; Nonplastic to low plasticity; Moist to wet; Loose to dense/medium stiff to hard
- Silty CLAY to Silty CLAY with some sand; CL; Gray, brown, white, yellow, orange-brown; Medium to high plasticity; Moist; Stiff to very hard; Some zones of relict rock texture
- CLAY with trace sand; CH; Gray-brown, gray, brown, yellow, green, orange, and yellow mottled orange-brown; Medium to high plasticity; Moist; Very stiff to very hard; Relict rock texture
- WEATHERED BASALT; Dark gray to orange and gray; Moderately weathered to predominantly decomposed; (R1-R3); Very close jointed
- BASALT; Dark gray, gray, black, red-gray, and brown-gray; Fresh to moderately weathered; (R3-R5); Very close to moderately close jointed

TB19786-032

Core	% Rec.	Hardness	R.Q.D.	qu (psi)
C-1	93	R1-R3	23	---
C-2	100	R4-R5	86	---
C-3	98	R3-R5	83	---

GENERAL NOTES:

1. Elevations are based on North American Vertical Datum (1988).
2. Borings were sampled with a hammer efficiency of 87%.
3. Approximate location of boring 22 is shown for information only. The geotechnical report (Dames & Moore, 1966) is included in the Geotechnical Engineering Report for the Abernethy Bridge, provided as a reference document.
4. See Geotechnical Data Report for data obtained through cone penetrometer testing and OYO suspension logging.
5. Geotechnical data shown on this drawing are a consolidation of information and/or revision in terminology from the drill logs. More detailed subsurface data is available on the drill logs in the geotechnical report, which is available from the Engineer.
6. Refer to the ODOT Soil and Rock Classification Manual (1987) for a description of the terms used on this sheet.
7. Borings were drilled using mud rotary and coring drilling techniques, which make it difficult to discern depth to groundwater during drilling, if it is encountered, due to the use of drilling fluid in the boreholes.
8. BOULDER ADVISORY: Boulders and cobbles were encountered during drilling for this and other nearby features and are noted on the drill logs. Boulders and cobbles may be encountered throughout the project area.

LEGEND

- 20 = 'N'-value; Uncorrected (raw) standard penetration resistance in accordance with ASTM D1586 (See Note 2)
- ▭ = Undisturbed sample (ASTM D1587)
- C-1 = HQ3 core sample (ASTM D2113)
- R.Q.D. = Rock quality designation
- ▽ = Measured groundwater level (See Note 7)
- 00.00' = Elevation
- MM/DD/YY = Date of measurement

- Asphalt Concrete
- Base Aggregate
- Topsoil
- Clay
- Silty Clay and Clay
- Clayey Silt
- Silt and Clayey Silt
- Organic Clayey Silt
- Sand
- Sand
- Gravel
- Boulders and Cobbles
- Siltstone
- Basalt Breccia
- Weathered Basalt
- Basalt

SCALE WARNING

If scale bar doesn't measure one inch then drawing is not to scale

STRUCTURE NO.	09403
BDS DWG NO.	00000
CALC. BOOK	0000
HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
DATE	05/21

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WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

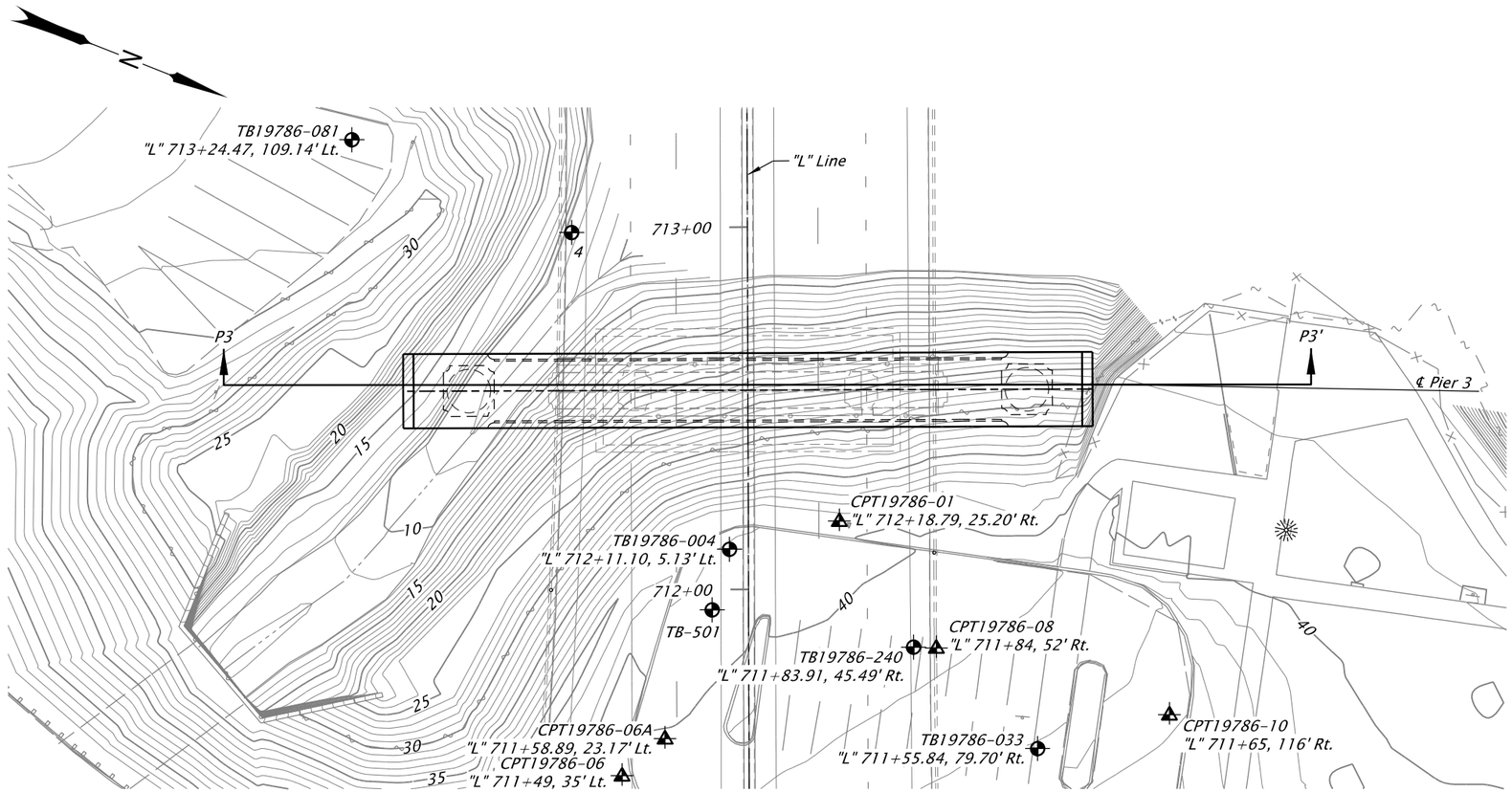
I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: James Walters | Reviewer: Risheng "Park" Piao
Drafter: Aimee Holmes | Checker: Cody Sorensen

PIER 2 GEOTECHNICAL DATA - 2

SHEET NO. JBC06

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST



PLAN

Scale: 1"=40'-0"

LEGEND

= *Boring location (See Note 4)*

= *Cone Penetrometer Test Location (See Note 2)*

GENERAL NOTES:

1. *Elevations are based on North American Vertical Datum (1988).*
2. *See Geotechnical Data Report for data obtained through cone penetrometer testing and OYO suspension logging.*
3. *1' Contour Interval*
4. *Approximate location of borings TB-501 and 4 are shown for information only. The geotechnical reports (ODOT, 1999, and Dames & Moore, 1966) are included in the Geotechnical Engineering Report for the Abernethy Bridge, provided as a reference document.*

SCALE WARNING

If scale bar doesn't measure one inch then drawing is not to scale

STRUCTURE NO.	09403
BDS DWG NO.	00000
CALC. BOOK	0000
HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
DATE	05/21

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WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

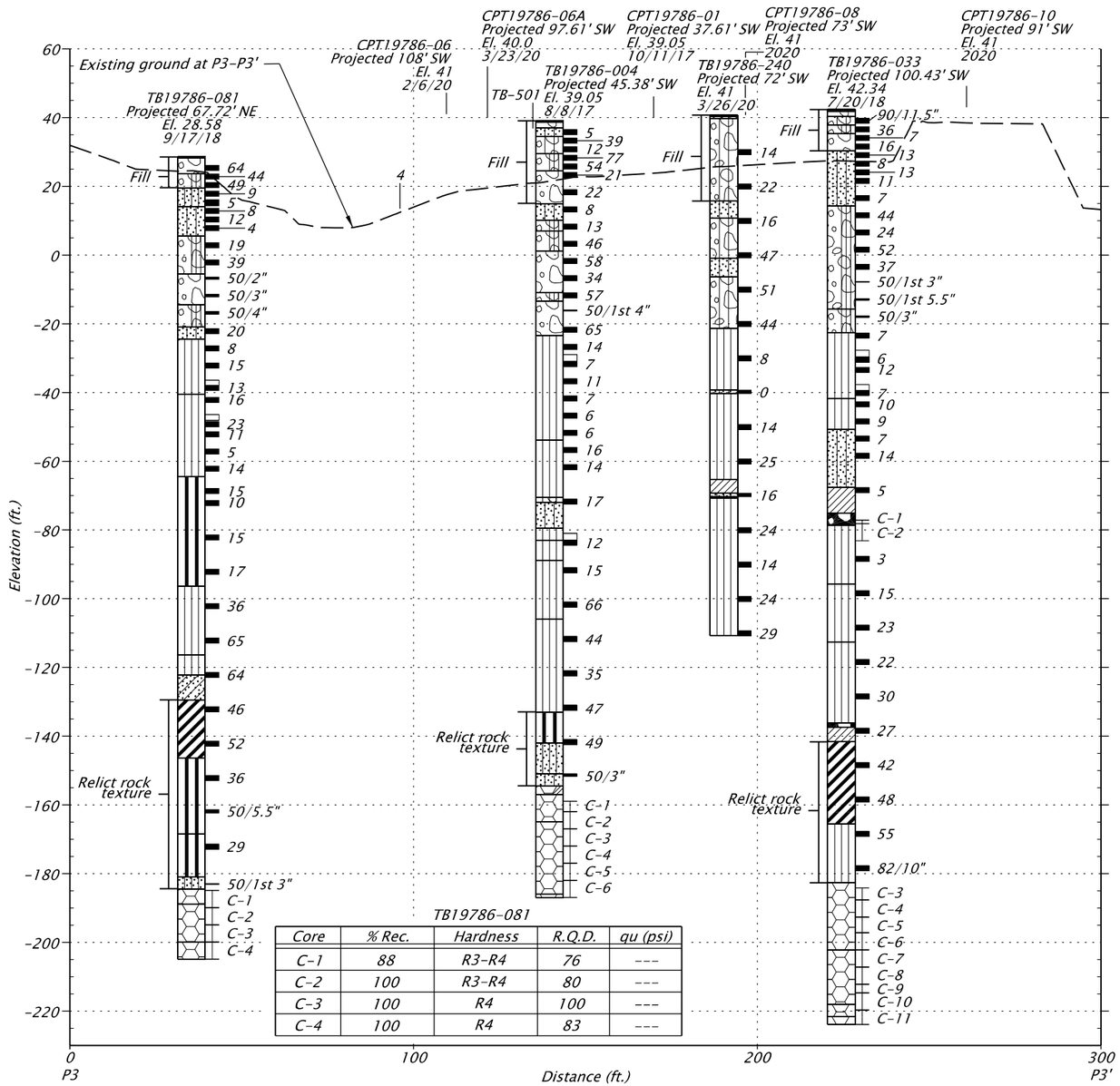
I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: James Walters
Drafter: Aimee Holmes
Reviewer: Risheng "Park" Piao
Checker: Cody Sorensen

PIER 3 GEOTECHNICAL DATA - 1

SHEET NO. JBC07

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST



TB19786-081

Core	% Rec.	Hardness	R.Q.D.	qu (psi)
C-1	88	R3-R4	76	---
C-2	100	R3-R4	80	---
C-3	100	R4	100	---
C-4	100	R4	83	---

CROSS SECTION AT P3-P3'

Scale: 1" = 40'-0"

LEGEND

- 20 = 'N'-value; Uncorrected (raw) standard penetration resistance in accordance with ASTM D1586 (See Note 2)
- ▭ = Undisturbed sample (ASTM D1587)
- C-1 = HQ3 core sample (ASTM D2113)
- R.Q.D. = Rock quality designation
- ▽ 00.00' MM/DD/YY = Measured groundwater level (See Note 7) Elevation Date of measurement

Asphalt Concrete; Base Aggregate; Topsoil; Clay; Silty Clay and Clay; Clayey Silt; Silt and Clayey Silt; Organic Clayey Silt; Sand; Sand; Gravel; Boulders and Cobbles; Siltstone; Basalt Breccia; Weathered Basalt; Basalt

SCALE WARNING
If scale bar doesn't measure one inch then drawing is not to scale

UNIT DESCRIPTIONS

- Asphalt Concrete
- Base Aggregate
- Silty SAND to Silty SAND with some gravel; SM; Brown, gray, and gray-brown; Nonplastic to low plasticity fines; Dry to wet; Very loose to very dense; Some zones of fill; Some zones of relict rock texture
- Silty GRAVEL with some sand and cobbles, Sandy Silty GRAVEL with cobbles, Silty GRAVEL with some sand to Gravelly SILT with some sand, with cobbles, and GRAVEL with some silt and sand; GM, ML, GP-GM; Brown, dark gray, gray-brown, and orange; Nonplastic fines; Moist to wet; Medium dense to very dense; Some zones of fill
- Sandy GRAVEL with some silt, with no to some cobbles and boulders, and GRAVEL with some silt and sand, with cobbles; GP-GM; Brown, gray, orange-brown, and dark gray; Nonplastic to low plasticity fines; Moist to wet; Medium dense to very dense; Some zones of fill
- GRAVEL with trace silt and trace to some sand, with cobbles and Sandy GRAVEL with trace silt, with no to some cobbles; GP; Gray, brown, yellow, dark gray, and gray-brown; Nonplastic fines; Wet; Loose to very dense; Some zones of fill
- Sandy SILT; ML; Gray, red-brown, orange, and brown; Nonplastic to low plasticity; Moist to wet; Medium stiff to very hard; Some zones of relict rock texture
- SILT to SILT with some sand; ML; Gray, orange-brown, and yellow; Nonplastic to low plasticity; Moist to wet; Soft to very hard and loose to very dense; Some zones of relict rock texture
- Clayey SILT to Clayey SILT with trace sand; MH; Gray, brown, orange-brown, orange-yellow, red, dark brown, and white; Medium to high plasticity; Moist to wet; Stiff to very hard; Some zones of relict rock texture
- Gravelly SILT with some sand, with cobbles; ML; Gray; Low plasticity; Wet; Very stiff
- Silty CLAY with trace sand or trace gravel; CL; Gray, gray-brown, and orange-brown; Medium plasticity; Moist to wet; Medium stiff to very stiff
- CLAY to CLAY with trace sand; CH; Orange-brown, gray, and yellow; Medium to high plasticity; Moist; Very stiff to hard; Some zones of relict rock texture
- BASALT BOULDER; Dark gray; Fresh; (R4-R5)
- Clayey SAND with trace gravel; SC; Orange, brown, red, yellow and black; Low plasticity fines; Moist; Very dense
- WEATHERED BASALT; Gray-brown; (R1-R2); Moderately weathered; Based on drill action and cuttings
- BASALT; Dark gray, gray, red, red-gray, and gray-red; Fresh to moderately weathered; (R3-R4); Very close to wide jointed

TB19786-004

Core	% Rec.	Hardness	R.Q.D.	qu (psi)
C-1	94	R3	82	7,521
C-2	98	R4	98	---
C-3	100	R4	98	---
C-4	100	R4	100	---
C-5	100	R4	100	---
C-6	100	R3-R4	94	---

TB19786-033

Core	% Rec.	Hardness	R.Q.D.	qu (psi)
C-1	100	R4-R5	42	---
C-2	80	R0-R5	0	---
C-3	100	R3-R4	80	12,403
C-4	90	R3-R4	90	---
C-5	100	R3-R4	99	7,946
C-6	100	R3-R4	88	---
C-7	97	R4	97	---
C-8	83	R4	83	---
C-9	100	R4	100	---
C-10	97	R4	82	---
C-11	100	R4	90	---

GENERAL NOTES:

1. Elevations are based on North American Vertical Datum (1988).
2. Boring TB19786-004 was sampled with a hammer efficiency of 88% and borings TB19786-033 and TB19786-081 were sampled with a hammer efficiency of 87%. The hammer efficiency for boring TB19786-240 is unavailable.
3. Approximate location of borings 4 and TB-501 are shown for information only. The geotechnical reports (ODOT, 1999, and Dames & Moore, 1966) are included in the Geotechnical Engineering Report for the Abernethy Bridge, provided as a reference document.
4. See Geotechnical Data Report for data obtained through cone penetrometer testing and OYO suspension logging.
5. Geotechnical data shown on this drawing are a consolidation of information and/or revision in terminology from the drill logs. More detailed subsurface data is available on the drill logs in the geotechnical report, which is available from the Engineer.
6. Refer to the ODOT Soil and Rock Classification Manual (1987) for a description of the terms used on this sheet.
7. Borings were drilled using mud rotary, rotosonic, and coring drilling techniques, which make it difficult to discern depth to groundwater during drilling, if it is encountered, due to the use of drilling fluid in the boreholes.
8. BOULDER ADVISORY: Boulders and cobbles were encountered during drilling for this and other nearby features and are noted on the drill logs. Boulders and cobbles may be encountered throughout the project area.

STRUCTURE NO. 09403
BDS DWG NO. 00000
CALC. BOOK 0000
HWY: 064
M.P.: 9.03
COUNTY Clackamas
DATE 05/21

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I-205: I-5 - OR213, PHASE 1 SEC.

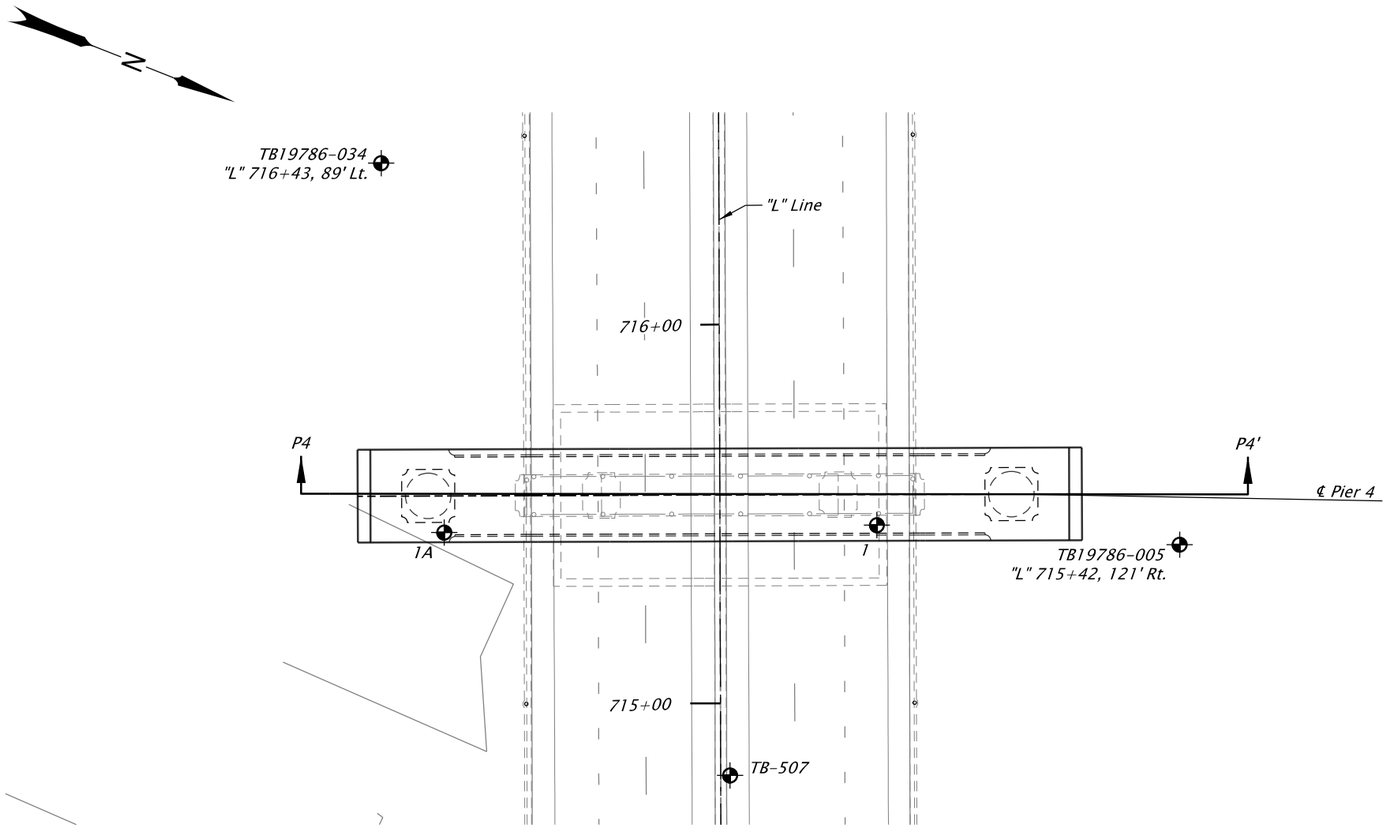
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: James Walters
Drafter: Aimee Holmes
Reviewer: Risheng "Park" Piao
Checker: Cody Sorensen

PIER 3 GEOTECHNICAL DATA - 2

SHEET NO. JBC08

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST



PLAN
Scale: 1"=40'-0"

LEGEND

= *Boring location (See Note 4)*

= *Cone Penetrometer Test Location (See Note 2)*

GENERAL NOTES:

1. *Elevations are based on North American Vertical Datum (1988).*
2. *See Geotechnical Data Report for data obtained through cone penetrometer testing and OYO suspension logging.*
3. *1' Contour Interval*
4. *Approximate location of borings TB-507, 1A, and 1 are shown for information only. The geotechnical reports (ODOT, 1999, and Dames & Moore, 1966) are included in the Geotechnical Engineering Report for the Abernethy Bridge, provided as a reference document.*

SCALE WARNING
If scale bar doesn't measure one inch then drawing is not to scale

STRUCTURE NO.	09403
BDS DWG NO.	00000
CALC. BOOK	0000
HWY: 064	M.P.: 9.03
COUNTY	Clackamas
DATE	05/21

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WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

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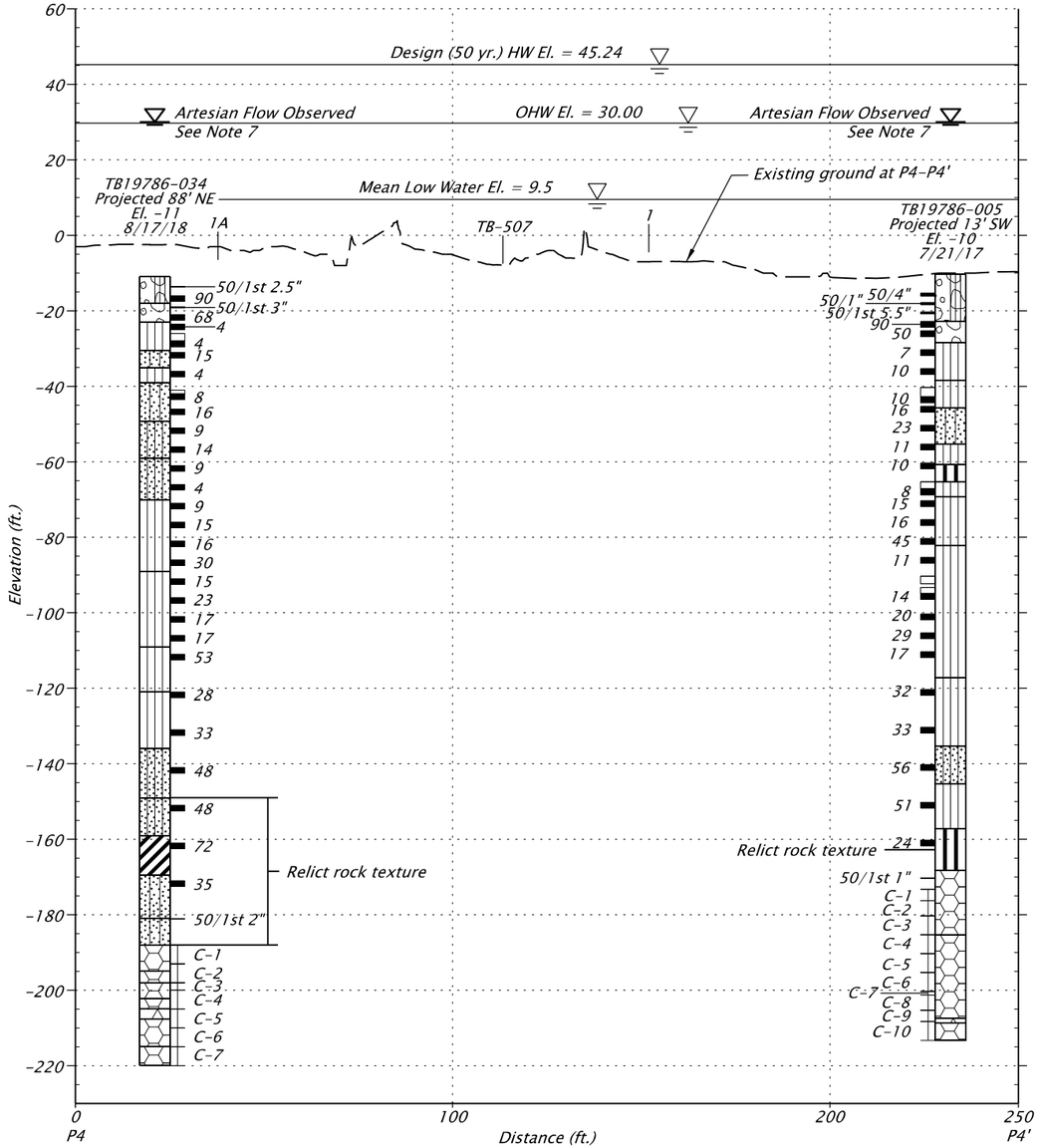
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: James Walters — Reviewer: Risheng "Park" Piao
Drafter: Aimee Holmes — Checker: Cody Sorensen

PIER 4 GEOTECHNICAL DATA - 1

SHEET NO. JBC09

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST



CROSS SECTION AT P4-P4'

Scale: 1" = 40'-0"

LEGEND

- 20 = 'N'-value; Uncorrected (raw) standard penetration resistance in accordance with ASTM D1586 (See Note 2)
- ▭ = Undisturbed sample (ASTM D1587)
- C-1 = HQ3 core sample (ASTM D2113)
- R.Q.D. = Rock quality designation
- ▽ = Estimated artesian water level (See Note 7)
- 00.00' = Elevation
- MM/DD/YY = Date of measurement

- Asphalt Concrete
- Base Aggregate
- Topsoil
- Clay
- Silty Clay and Clay
- Clayey Silt
- Silt and Clayey Silt
- Organic Clayey Silt
- Sand
- Sand
- Gravel
- Boulders and Cobbles
- Siltstone
- Basalt Breccia
- Weathered Basalt
- Basalt

SCALE WARNING

If scale bar doesn't measure one inch then drawing is not to scale

UNIT DESCRIPTIONS

- GRAVEL with some silt and sand, with cobbles and boulders; GP-GM; Brown, gray, and gray-brown with orange mottles; Nonplastic to low plasticity fines; Wet; Very dense
- GRAVEL with some sand with trace silt, with cobbles; GP; Dark gray, brown, and gray with orange mottles; Nonplastic fines; Wet; Dense to very dense
- SILT to SILT with some sand; ML; Gray; Nonplastic to medium plasticity; Moist to wet; Soft to hard and loose to dense
- Silty SAND, Silty SAND with trace gravel, and Interbedded Silty SAND and Sandy SILT; SM, SM/ML; Gray, gray-brown, orange, and orange-brown; Nonplastic to low plasticity fines; Moist to wet; Loose to very dense/medium stiff to stiff; Some zones of relict rock texture
- Sandy SILT and Interbedded Silty SAND and Sandy SILT; ML, SM/ML; Gray, orange-brown, and yellow; Nonplastic to medium plasticity; Moist to wet; Loose to very dense/soft to hard; Some zones of relict rock texture; Some interbeds of GRAVEL or SILT
- Clayey SILT to Clayey SILT with trace sand; MH; Gray and o range-brown to gray-green; Medium plasticity; Moist; Stiff to very stiff; Some zones of relict rock texture
- CLAY with trace sand; CH; Red, orange, yellow, and gray; Medium to high plasticity; Moist; Very hard; Relict rock texture
- VOLCANIC/BASALT BRECCIA; Red, dark red, dark gray, green, orange, and brown; Moderately weathered to predominantly decomposed; (R0-R3); Very close to close jointed; Gravel- to cobble-sized clasts in a fine-grained matrix; Flow contact
- BASALT; Dark gray, red, gray, black, orange, brown, and green; Fresh to highly weathered; (R2-R4); Very close to moderately close jointed

TB19786-034

Core	% Rec.	Hardness	R.Q.D.	qu (psi)
C-1	83	R4	53	15,862
C-2	82	R2-R4	16	---
C-3	67	R3	0	---
C-4	85	R2-R3	0	---
C-5	87	R0-R3	17	---
C-6	97	R3	65	---
C-7	100	R4	100	---

TB19786-005

Core	% Rec.	Hardness	R.Q.D.	qu (psi)
C-1	100	R4-R5	86	---
C-2	100	R0-R5	96	---
C-3	98	R3-R4	92	8,826
C-4	100	R3-R4	100	---
C-5	100	R3-R4	70	---
C-6	100	R3-R4	100	---
C-7	100	R4	100	---
C-8	100	R4	98	---
C-9	97	R4	67	---
C-10	98	R4	64	---

GENERAL NOTES:

1. Elevations are based on North American Vertical Datum (1988).
2. Boring TB19786-005 was sampled with a hammer efficiency of 88% and boring TB19786-034 was sampled with a hammer efficiency of 87%.
3. Approximate location of borings TB-507, 1, and 1A are shown for information only. The geotechnical reports (ODOT, 1999, and Dames & Moore, 1966) are included in the Geotechnical Engineering Report for the Abernethy Bridge, provided as a reference document.
4. See Geotechnical Data Report for data obtained through OYO suspension logging.
5. Geotechnical data shown on this drawing are a consolidation of information and/or revision in terminology from the drill logs. More detailed subsurface data is available on the drill logs in the geotechnical report, which is available from the Engineer.
6. Refer to the ODOT Soil and Rock Classification Manual (1987) for a description of the terms used on this sheet.
7. Artesian groundwater flow was encountered at depth during drilling. See Geotechnical Data Report for information.
8. BOULDER ADVISORY: Boulders and cobbles were encountered during drilling for this and other nearby features and are noted on the drill logs. Boulders and cobbles may be encountered throughout the project area.

STRUCTURE NO.	09403
BDS DWG NO.	00000
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HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
DATE	05/21

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WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: James Walters | Reviewer: Risheng "Park" Piao
Drafter: Aimee Holmes | Checker: Cody Sorensen

PIER 4 GEOTECHNICAL DATA - 2

SHEET NO. JBC10

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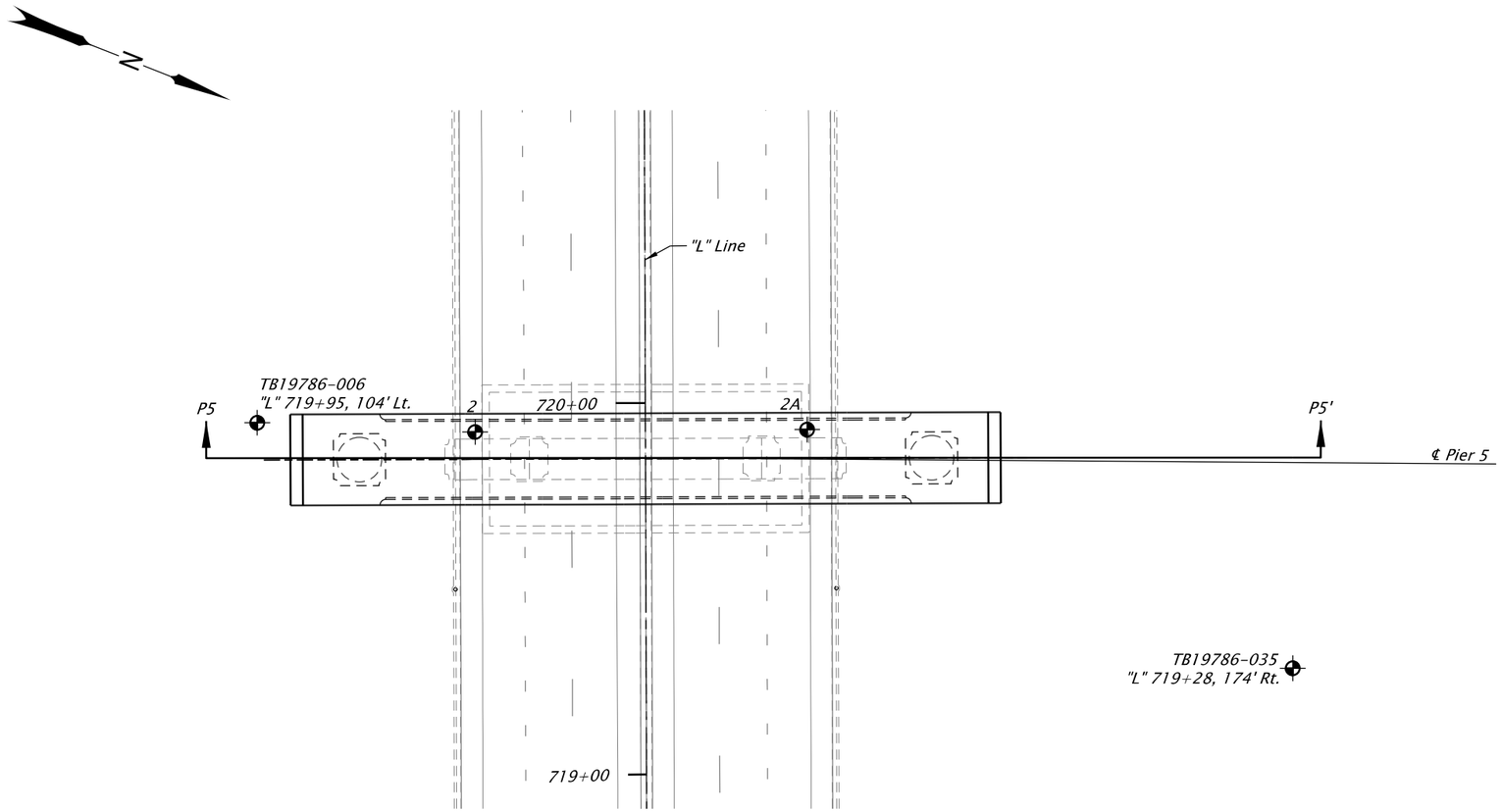

PLAN
Scale: 1"=40'-0"

LEGEND

= *Boring location (See Note 4)*

= *Cone Penetrometer Test Location (See Note 2)*

GENERAL NOTES:

1. *Elevations are based on North American Vertical Datum (1988).*
2. *See Geotechnical Data Report for data obtained through cone penetrometer testing and OYO suspension logging.*
3. *1' Contour Interval*
4. *Approximate locations of borings 2A and 2 are shown for information only. The geotechnical report (Dames & Moore, 1966) is included in the Geotechnical Engineering Report for the Abernethy Bridge, provided as a reference document.*

SCALE WARNING
If scale bar doesn't measure one inch then drawing is not to scale

STRUCTURE NO.	09403
BDS DWG NO.	00000
CALC. BOOK	0000
HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
DATE	05/21

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WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

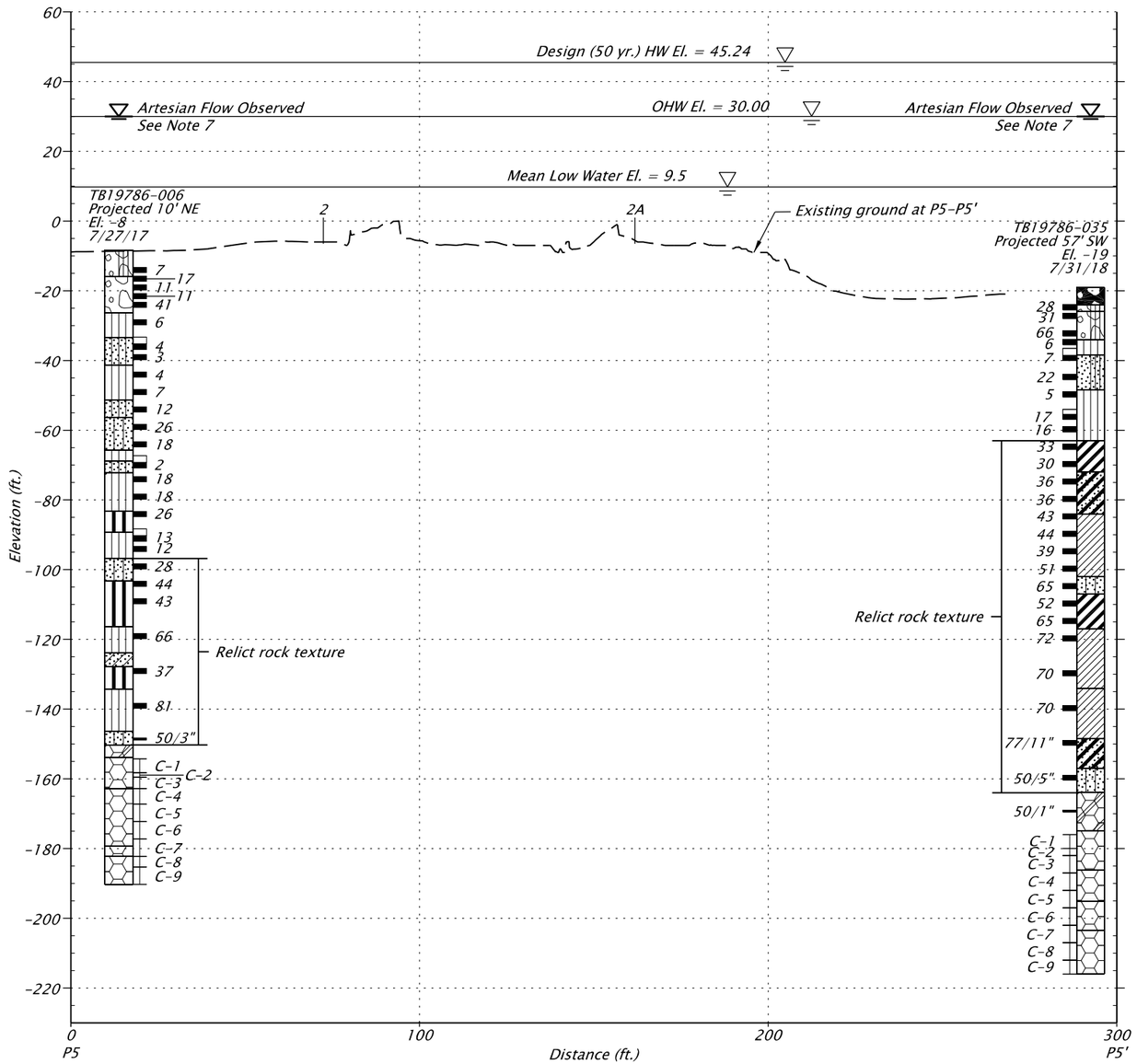
I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: James Walters	Reviewer: Risheng "Park" Piao
Drafter: Aimee Holmes	Checker: Cody Sorensen

PIER 5 GEOTECHNICAL DATA - 1

SHEET NO. JBC11

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST



CROSS SECTION AT P5-P5'

Scale: 1" = 40'-0"

UNIT DESCRIPTIONS

- Gravel, cobbles, and small boulders based on drilling action
- Sandy GRAVEL with some silt, with cobbles, and GRAVEL with some silt and sand, with cobbles; GP-GM; Gray, dark gray, and brown; Nonplastic to low plasticity fines; Wet; Loose to very dense; Some wood debris
- Sandy GRAVEL with trace silt; GP; Gray and brown to gray; Nonplastic fines; Wet; Medium dense to dense
- SILT to SILT with some sand; ML; Gray, brown-orange, and black; Nonplastic to low plasticity; Moist to wet; Loose/m edium stiff to very stiff; Some zones of relict rock texture
- SAND with some silt; SP-SM; Gray; Nonplastic fines; Wet; Loose to medium dense
- Sandy SILT; ML; Gray; Nonplastic to low plasticity; Wet; Medium dense/very soft to medium stiff
- CLAY with trace sand; CH; Orange-brown, orange, red-brown, gray, green, and yellow; Medium to high plasticity; Moist; Very stiff to very hard; Relict rock texture
- Silty SAND and Silty SAND with trace gravel; SM; Gray, brown-orange, orange-brown, brown, and orange; Nonplastic to low plasticity fines; Moist to wet; Medium dense to very dense; Some zones of relict rock texture
- Sandy CLAY; CH; Orange-brown, black, gray, pink, red, and green; Medium plasticity; Moist; Hard to very hard; Relict rock texture
- Silty CLAY with some sand with no to trace gravel; CL; Gray, orange, brown, orange-brown, yellow-green, and yellow; Low to medium plasticity; Moist to wet; Hard to very hard; Relict rock texture
- Clayey SILT to Sandy clayey SILT; MH; Brown-orange and gray; Medium plasticity; Moist to wet; Very stiff to hard; Some zones of relict rock texture
- Clayey SAND; SC; Orange and brown; High plasticity fines; Based on drill action and cuttings
- WEATHERED BASALT; Gray-brown and orange-brown; Predominantly decomposed to moderately weathered; (R0-R2); Remolds to Silty GRAVEL with some sand (GM)
- BASALT; Dark gray, dark gray-red, brown, yellow, and green-gray; Fresh to predominantly decomposed; (R0-R5); Very close to moderately close jointed

TB19786-006

Core	% Rec.	Hardness	R.Q.D.	qu (psi)
C-1	96	R4	61	---
C-2	93	R4	40	---
C-3	100	R4	40	---
C-4	100	R4	69	---
C-5	100	R4	87	---
C-6	100	R4	97	---
C-7	100	R3-R4	85	---
C-8	100	R3-R4	100	---
C-9	95	R4	87	9,952

TB19786-035

Core	% Rec.	Hardness	R.Q.D.	qu (psi)
C-1	71	R0-R3	17	---
C-2	100	R2	50	1,249
C-3	97	R2-R4	0	---
C-4	100	R4	71	9,453
C-5	100	R4	78	---
C-6	100	R4-R5	93	---
C-7	100	R4-R5	85	---
C-8	100	R4-R5	94	---
C-9	75	R4-R5	42	---

GENERAL NOTES:

1. Elevations are based on North American Vertical Datum (1988).
2. Boring TB19786-006 was sampled with a hammer efficiency of 88% and boring TB19786-035 was sampled with a hammer efficiency of 87%.
3. Approximate locations of borings 2 and 2A are shown for information only. The geotechnical report (Dames & Moore, 1966) is included in the Geotechnical Engineering Report for the Abernethy Bridge, provided as a reference document.
4. See Geotechnical Data Report for data obtained through OYO suspension logging.
5. Geotechnical data shown on this drawing are a consolidation of information and/or revision in terminology from the drill logs. More detailed subsurface data is available on the drill logs in the geotechnical report, which is available from the Engineer.
6. Refer to the ODOT Soil and Rock Classification Manual (1987) for a description of the terms used on this sheet.
7. Artesian groundwater flow was encountered at depth during drilling. See Geotechnical Data Report for information.
8. BOULDER ADVISORY: Boulders and cobbles were encountered during drilling for this and other nearby features and are noted on the drill logs. Boulders and cobbles may be encountered throughout the project area.

LEGEND

- 20 = 'N'-value; Uncorrected (raw) standard penetration resistance in accordance with ASTM D1586 (See Note 2)
- ▭ = Undisturbed sample (ASTM D1587)
- C-1 = HQ3 core sample (ASTM D2113)
- R.Q.D. = Rock quality designation
- ▽ = Estimated artesian water level (See Note 7)
- 00.00' = Elevation
- MM/DD/YY = Date of measurement

Asphalt Concrete; Base Aggregate; Topsoil; Clay; Silty Clay and Clay; Clayey Silt; Silt and Clayey Silt; Organic Clayey Silt; Sand; Sand; Gravel; Boulders and Cobbles; Siltstone; Basalt Breccia; Weathered Basalt; Basalt

SCALE WARNING

If scale bar doesn't measure one inch then drawing is not to scale

STRUCTURE NO.	09403
BDS DWG NO.	00000
CALC. BOOK	0000
HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
DATE	05/21

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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

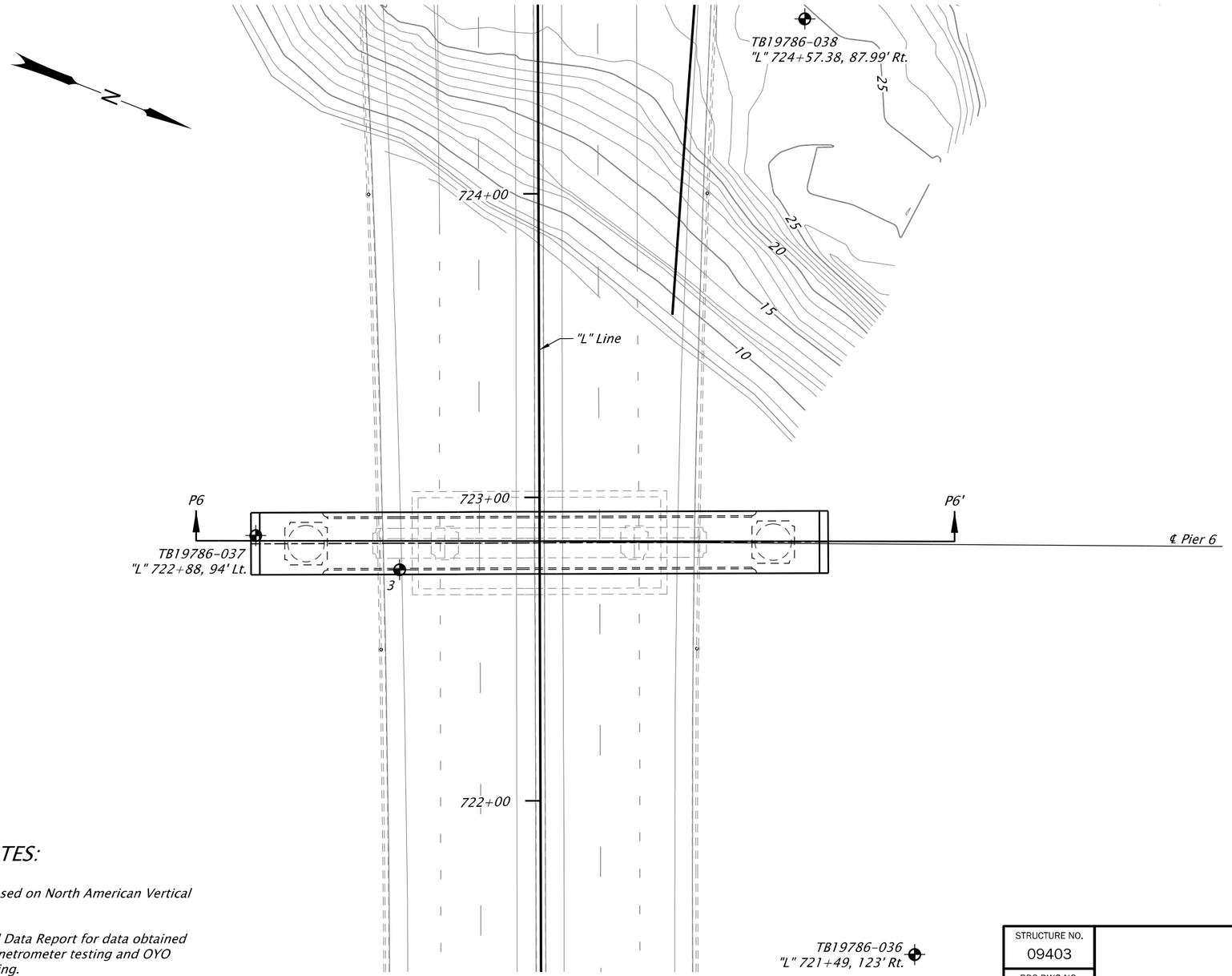
I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: James Walters | Reviewer: Risheng "Park" Piao
Drafter: Aimee Holmes | Checker: Cody Sorensen

PIER 5 GEOTECHNICAL DATA - 2

SHEET NO. JBC12

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST



PLAN
Scale: 1"=40'-0"

LEGEND

= *Boring location (See Note 4)*

= *Cone Penetrometer Test Location (See Note 2)*

GENERAL NOTES:

1. *Elevations are based on North American Vertical Datum (1988).*
2. *See Geotechnical Data Report for data obtained through cone penetrometer testing and OYO suspension logging.*
3. *1' Contour Interval*
4. *Approximate location of boring 3 is shown for information only. The geotechnical report (Dames & Moore, 1966) is included in the Geotechnical Engineering Report for the Abernethy Bridge, provided as a reference document.*

SCALE WARNING
If scale bar doesn't measure one inch then drawing is not to scale

STRUCTURE NO.	09403
BDS DWG NO.	00000
CALC. BOOK	0000
HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
DATE	05/21

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WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: James Walters — Reviewer: Risheng "Park" Piao
Drafter: Aimee Holmes — Checker: Cody Sorensen

PIER 6 GEOTECHNICAL DATA - 1

SHEET NO. JBC13

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

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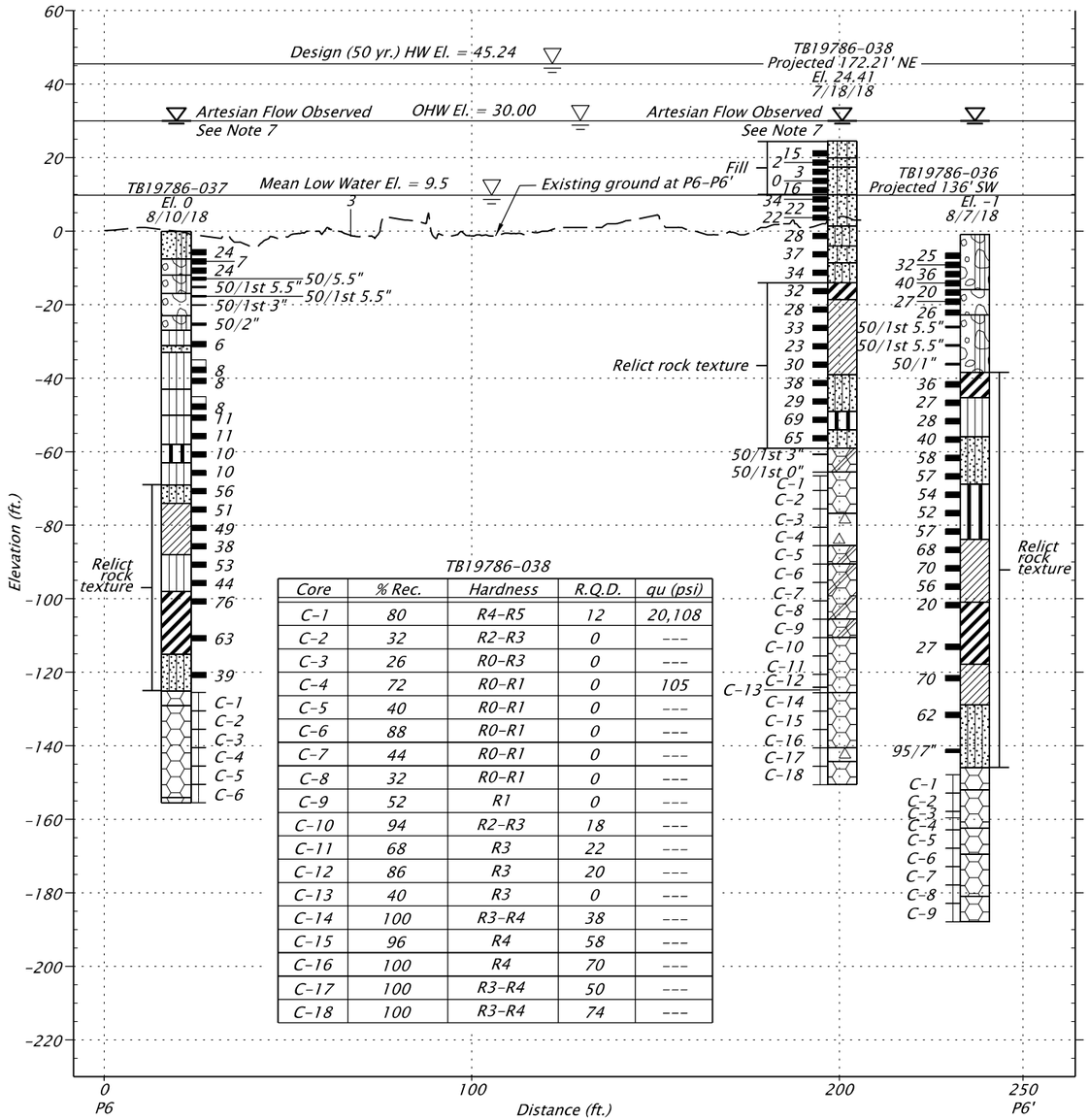

TB19786-038

Core	% Rec.	Hardness	R.Q.D.	qu (psi)
C-1	80	R4-R5	12	20,108
C-2	32	R2-R3	0	---
C-3	26	R0-R3	0	---
C-4	72	R0-R1	0	105
C-5	40	R0-R1	0	---
C-6	88	R0-R1	0	---
C-7	44	R0-R1	0	---
C-8	32	R0-R1	0	---
C-9	52	R1	0	---
C-10	94	R2-R3	18	---
C-11	68	R3	22	---
C-12	86	R3	20	---
C-13	40	R3	0	---
C-14	100	R3-R4	38	---
C-15	96	R4	58	---
C-16	100	R4	70	---
C-17	100	R3-R4	50	---
C-18	100	R3-R4	74	---

CROSS SECTION AT P6-P6'

Scale: 1" = 40'-0"

LEGEND

- 20 = 'N'-value; Uncorrected (raw) standard penetration resistance in accordance with ASTM D1586 (See Note 2)
- ▭ = Undisturbed sample (ASTM D1587)
- C-1 = HQ3 core sample (ASTM D2113)
- R.Q.D. = Rock quality designation
- ▽ = Estimated artesian water level (See Note 7)
- 00.00' = Elevation
- MM/DD/YY = Date of measurement

Asphalt Concrete; Base Aggregate; Topsoil; Clay; Silty Clay and Clay; Clayey Silt; Silt and Clayey Silt; Organic Clayey Silt; Sand; Sand; Gravel; Boulders and Cobbles; Siltstone; Basalt Breccia; Weathered Basalt; Basalt

SCALE WARNING

If scale bar doesn't measure one inch then drawing is not to scale

UNIT DESCRIPTIONS

Silty SAND and Silty SAND with trace gravel; SM; Brown, gray, dark gray, dark red-brown, yellow, black, orange-brown, blue-gray, gray mottled blue-gray and orange-brown, and olive-gray mottled orange and red; Nonplastic to low plasticity fines; Damp to wet; Very loose to dense; Some zones of fill; Some zones of relict rock texture

Gravelly SAND with some silt; SP-SM; Gray; Low plasticity fines; Medium dense; Wet

Sandy GRAVEL with some silt, with cobbles; GP-GM; Dark gray, brown, and gray; Nonplastic fines; Wet; Loose to very dense

Sandy GRAVEL with trace silt, with cobbles; GP; Dark gray and gray; Nonplastic fines; Wet; Medium dense to very dense

Sandy SILT; ML; Gray, orange-brown, brown, yellow, black, green, orange, red, yellow-brown, and gray mottled orange-brown and red-brown; Nonplastic to low plasticity; Moist; Very stiff to very hard/medium dense to dense; Some zones of relict rock texture

SILT to SILT with some sand; ML; Brown, orange, gray, yellow, red, red-brown, and orange-brown; Nonplastic to medium plasticity; Moist to wet; Medium stiff to hard; Some zones of relict rock texture

CLAY to CLAY with trace sand; CH; Orange-brown, yellow, gray, red, brown-red, orange, black, and dark red-brown; Medium to high plasticity; Moist; Very stiff to very hard; Relict rock texture

Clayey SILT with some sand, Clayey SILT to CLAY, and SILT to Clayey SILT; MH, MH/CH, ML/MH; Gray, orange-brown, olive-brown to olive-gray, and black; Low to medium plasticity; Moist to wet; Stiff to very hard; Some zones of relict basalt texture

Silty CLAY with trace to some sand; CL; Gray-brown, red-brown, orange, gray, white, green, dark red-brown, yellow-brown, yellow, orange-brown, brown, and black; Low to medium plasticity; Moist; Very stiff to very hard; Relict rock texture

WEATHERED BASALT; Gray-brown, orange-brown, yellow, gray, and red; Decomposed to moderately weathered; (R0-R3); Very close to moderately close jointed; Some zones highly altered to very stiff/hard CLAY (CH)

DECOMPOSED BRECCIA and BASALT BRECCIA; Brown, red, dark gray, red-gray, orange, and dark green-brown; Decomposed to slightly weathered; (R0-R3); Very close to close jointed; Gravel- to cobble-sized fragments in a fine-grained matrix; Some zones highly altered to very stiff/hard CLAY (CH)

BASALT; Dark gray, gray, orange-brown, brown, brown-gray, and orange; Fresh to moderately weathered; (R2-R5); Very close to wide jointed

TB19786-037

Core	% Rec.	Hardness	R.Q.D.	qu (psi)
C-1	100	R4	77	---
C-2	100	R4-R5	93	---
C-3	98	R4-R5	98	---
C-4	95	R4-R5	95	---
C-5	100	R4-R5	100	---
C-6	96	R3-R5	67	---

TB19786-036

Core	% Rec.	Hardness	R.Q.D.	qu (psi)
C-1	93	R3	8	---
C-2	100	R3-R4	7	---
C-3	100	R3	0	---
C-4	100	R3	20	---
C-5	98	R2-R3	98	---
C-6	100	R3-R4	58	---
C-7	100	R4	55	---
C-8	100	R4	73	---
C-9	97	R4	71	---

GENERAL NOTES:

1. Elevations are based on North American Vertical Datum (1988).
2. Borings were sampled with a hammer efficiency of 87%.
3. Approximate location of boring 3 is shown for information only. The geotechnical report (Dames & Moore, 1966) is included in the Geotechnical Engineering Report for the Abernethy Bridge, provided as a reference document.
4. See Geotechnical Data Report for data obtained through OYO suspension logging.
5. Geotechnical data shown on this drawing are a consolidation of information and/or revision in terminology from the drill logs. More detailed subsurface data is available on the drill logs in the geotechnical report, which is available from the Engineer.
6. Refer to the ODOT Soil and Rock Classification Manual (1987) for a description of the terms used on this sheet.
7. Artesian groundwater flow was encountered at depth during drilling. See Geotechnical Data Report for information.
8. BOULDER ADVISORY: Boulders and cobbles were encountered during drilling for this and other nearby features and are noted on the drill logs. Boulders and cobbles may be encountered throughout the project area.

STRUCTURE NO. 09403
BDS DWG NO. 00000
CALC. BOOK 0000
HWY: 064
M.P.: 9.03
COUNTY Clackamas
DATE 05/21

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WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

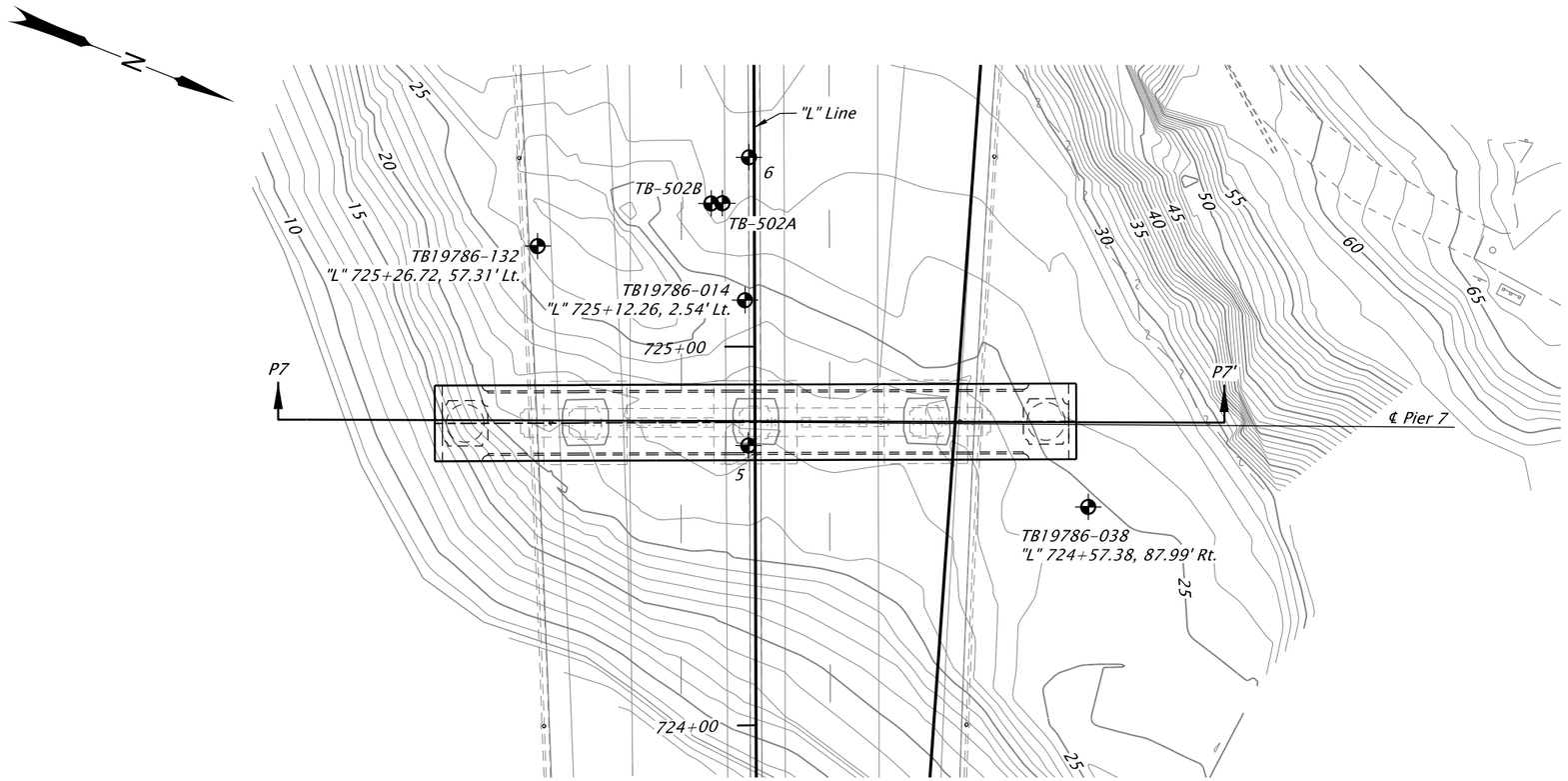
I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: James Walters
Drafter: Aimee Holmes
Reviewer: Risheng "Park" Piao
Checker: Cody Sorensen

PIER 6 GEOTECHNICAL DATA - 2

SHEET NO. JBC14

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST



PLAN
Scale: 1"=40'-0"

LEGEND

= *Boring location (See Note 4)*

= *Cone Penetrometer Test Location (See Note 2)*

GENERAL NOTES:

1. *Elevations are based on North American Vertical Datum (1988).*
2. *See Geotechnical Data Report for data obtained through cone penetrometer testing and OYO suspension logging.*
3. *1' Contour Interval*
4. *Approximate locations of borings 5, 6, TB-502A, and TB-502B are shown for information only. The geotechnical reports (ODOT, 1999, and Dames & Moore, 1966) are included in the Geotechnical Engineering Report for the Abernethy Bridge, provided as a reference document.*

SCALE WARNING
If scale bar doesn't measure one inch then drawing is not to scale

STRUCTURE NO.	09403
BDS DWG NO.	00000
CALC. BOOK	0000
HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
DATE	05/21

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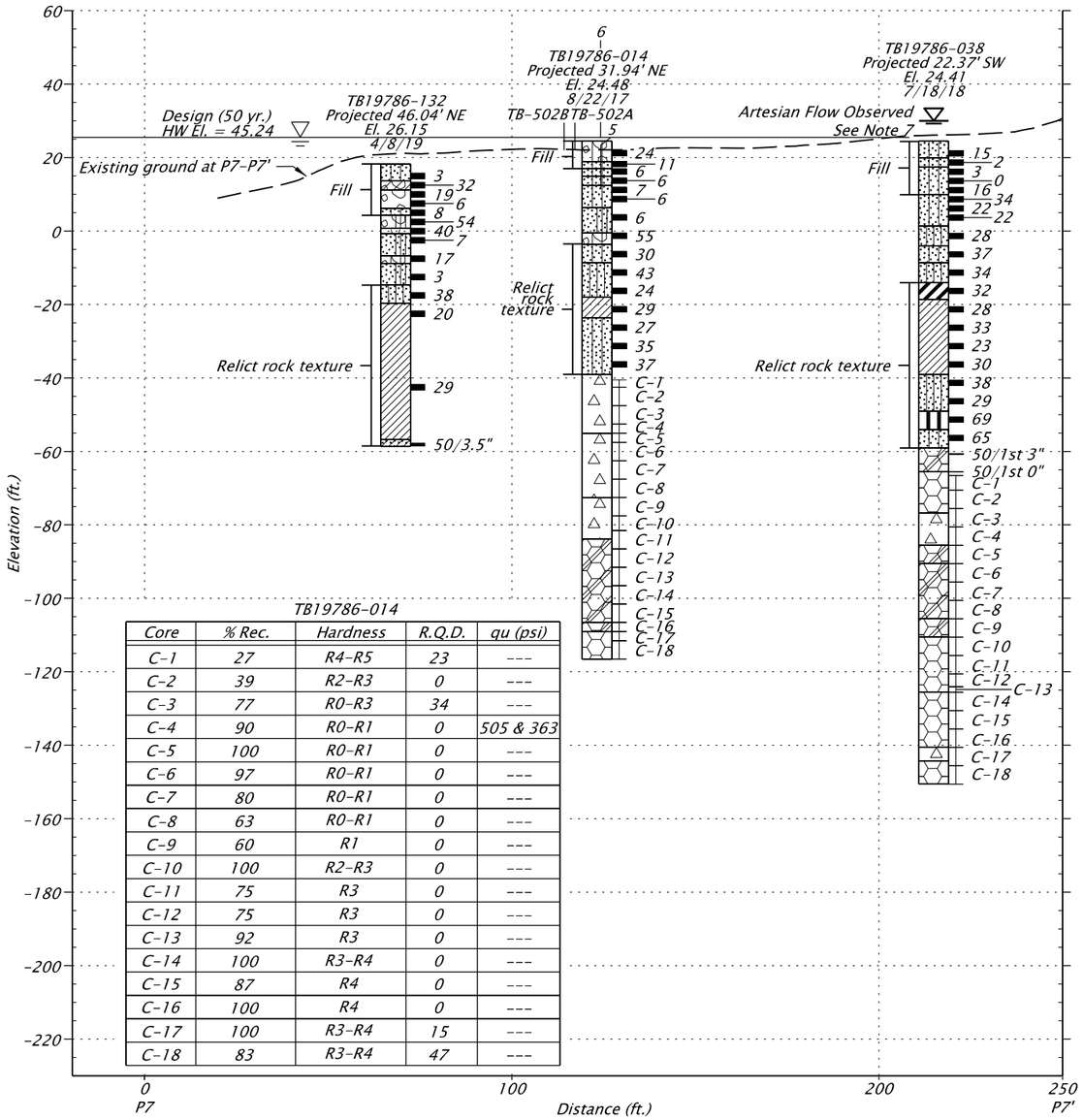
I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: James Walters | Reviewer: Risheng "Park" Piao
Drafter: Aimee Holmes | Checker: Cody Sorensen

PIER 7 GEOTECHNICAL DATA - 1

SHEET NO. JBC15



TB19786-014

Core	% Rec.	Hardness	R.Q.D.	qu (psi)
C-1	27	R4-R5	23	---
C-2	39	R2-R3	0	---
C-3	77	R0-R3	34	---
C-4	90	R0-R1	0	505 & 363
C-5	100	R0-R1	0	---
C-6	97	R0-R1	0	---
C-7	80	R0-R1	0	---
C-8	63	R0-R1	0	---
C-9	60	R1	0	---
C-10	100	R2-R3	0	---
C-11	75	R3	0	---
C-12	75	R3	0	---
C-13	92	R3	0	---
C-14	100	R3-R4	0	---
C-15	87	R4	0	---
C-16	100	R4	0	---
C-17	100	R3-R4	15	---
C-18	83	R3-R4	47	---

CROSS SECTION AT P7-P7'

Scale: 1" = 40'-0"

UNIT DESCRIPTIONS

- Silty SAND with no to some gravel, Clayey silty SAND, and Gravelly silty SAND; SM; Brown, orange, brown-orange, black, gray, yellow, dark red-brown, dark gray, blue-gray, gray mottled blue-gray and orange-brown, and olive-gray mottled orange and red; Nonplastic to medium plasticity fines; Damp to wet; Very loose to dense; Some zones of fill; Some zones of relict rock texture
- Sandy silty GRAVEL, with cobbles; GM; Brown, gray, and dark gray; Nonplastic to low plasticity fines; Damp to wet; Medium dense to very dense; Some zones of fill
- Sandy clayey GRAVEL; GC; Brown; Low to medium plasticity fines; Wet; Dense; Fill
- Sandy GRAVEL with trace silt; GP; Brown; Nonplastic fines; Wet; Medium dense; Fill
- Sandy GRAVEL with some silt; GP-GM; Brown and gray; Nonplastic fines; Wet; Very dense
- WOOD
- SAND with some silt; SP-SM; Gray and dark gray; Nonplastic fines; Wet; Very loose to loose
- Sandy SILT; ML; Brown-orange, brown, yellow, gray, orange-brown, black, red, yellow-brown, gray-orange, dark brown, and gray mottled orange-brown and red-brown; Nonplastic to low plasticity; Moist; Very stiff to hard/medium dense to dense; Some zones of relict rock texture
- CLAY with trace sand; CH; Dark red-brown; Medium plasticity; Moist; Hard; Relict rock texture
- Silty CLAY with trace to some sand; CL; Red-brown, yellow, dark red-brown, yellow-brown, black-orange, and gray-green; Low to medium plasticity; Moist; Very stiff to hard; Relict rock texture
- SILT to Clayey SILT; ML/MH; Olive-brown to olive-gray; Low to medium plasticity; Moist; Very hard; Relict rock texture
- Sandy silty CLAY with trace gravel; CL; Gray, green-gray, and red-brown; Low plasticity; Moist; Hard; Relict rock texture
- FAULT BRECCIA, DECOMPOSED BRECCIA, and BASALT BRECCIA; Gray, light gray, pink, orange, tan, black, brown, red, dark green-brown, red-gray, orange-brown, dark brown, yellow, and white; Decomposed to slightly weathered; (R0-R3); Very close to moderately close jointed; Gravel- to boulder-sized rock fragments in a silt to coarse sand matrix; Occasional slightly weathered (R3-R4) basalt boulders
- WEATHERED BASALT; Gray-brown, orange-brown, brown, brown-gray, gray, red, yellow, and yellow-brown; Decomposed to moderately weathered; (R0-R3); Very close to moderately close jointed; Some zones highly altered to CLAY (CH)
- BASALT; Gray, dark gray, and brown-gray; Fresh to moderately weathered; (R2-R5); Very close to moderately close jointed

TB19786-038

Core	% Rec.	Hardness	R.Q.D.	qu (psi)
C-1	80	R4-R5	12	20,108
C-2	32	R2-R3	0	---
C-3	26	R0-R3	0	---
C-4	72	R0-R1	0	105
C-5	40	R0-R1	0	---
C-6	88	R0-R1	0	---
C-7	44	R0-R1	0	---
C-8	32	R0-R1	0	---
C-9	52	R1	0	---
C-10	94	R2-R3	18	---
C-11	68	R3	22	---
C-12	86	R3	20	---
C-13	40	R3	0	---
C-14	100	R3-R4	38	---
C-15	96	R4	58	---
C-16	100	R4	70	---
C-17	100	R3-R4	50	---
C-18	100	R3-R4	74	---

GENERAL NOTES:

1. Elevations are based on North American Vertical Datum (1988).
2. Borings TB19786-014 and TB19786-038 were sampled with a hammer efficiency of 88% and boring TB19876-132 was sampled with a hammer efficiency of 90%.
3. Approximate locations of borings 5, 6, TB-502A, and TB-502B are shown for information only. The geotechnical reports (ODOT, 1999, and Dames & Moore, 1966) are included in the Geotechnical Engineering Report for the Abernethy Bridge, provided as a reference document.
4. See Geotechnical Data Report for data obtained through cone penetrometer testing and OYO suspension logging.
5. Geotechnical data shown on this drawing are a consolidation of information and/or revision in terminology from the drill logs. More detailed subsurface data is available on the drill logs in the geotechnical report, which is available from the Engineer.
6. Refer to the ODOT Soil and Rock Classification Manual (1987) for a description of the terms used on this sheet.
7. Borings were drilled using mud rotary and coring drilling techniques, which make it difficult to discern depth to groundwater during drilling, if it is encountered, due to the use of drilling fluid in the boreholes. Artesian groundwater flow was encountered at depth during drilling in boring TB19786-038. See Geotechnical Data Report for information.
8. BOULDER ADVISORY: Boulders and cobbles were encountered during drilling for this and other nearby features and are noted on the drill logs. Boulders and cobbles may be encountered throughout the project area.

LEGEND

- 20 = 'N'-value; Uncorrected (raw) standard penetration resistance in accordance with ASTM D1586 (See Note 2)
- ▭ = Undisturbed sample (ASTM D1587)
- C-1 = HQ3 core sample (ASTM D2113)
- R.Q.D. = Rock quality designation
- ▽ = Estimated artesian water level (See Note 7)
- 00.00' = Elevation
- MM/DD/YY = Date of measurement

Asphalt Concrete; Base Aggregate; Topsoil; Clay; Silty Clay and Clay; Clayey Silt; Silt and Clayey Silt; Organic Clayey Silt; Sand; Sand; Gravel; Boulders and Cobbles; Siltstone; Basalt Breccia; Weathered Basalt; Basalt

SCALE WARNING
If scale bar doesn't measure one inch then drawing is not to scale

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STRUCTURE NO.	09403
BDS DWG NO.	00000
CALC. BOOK	0000
HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
DATE	05/21

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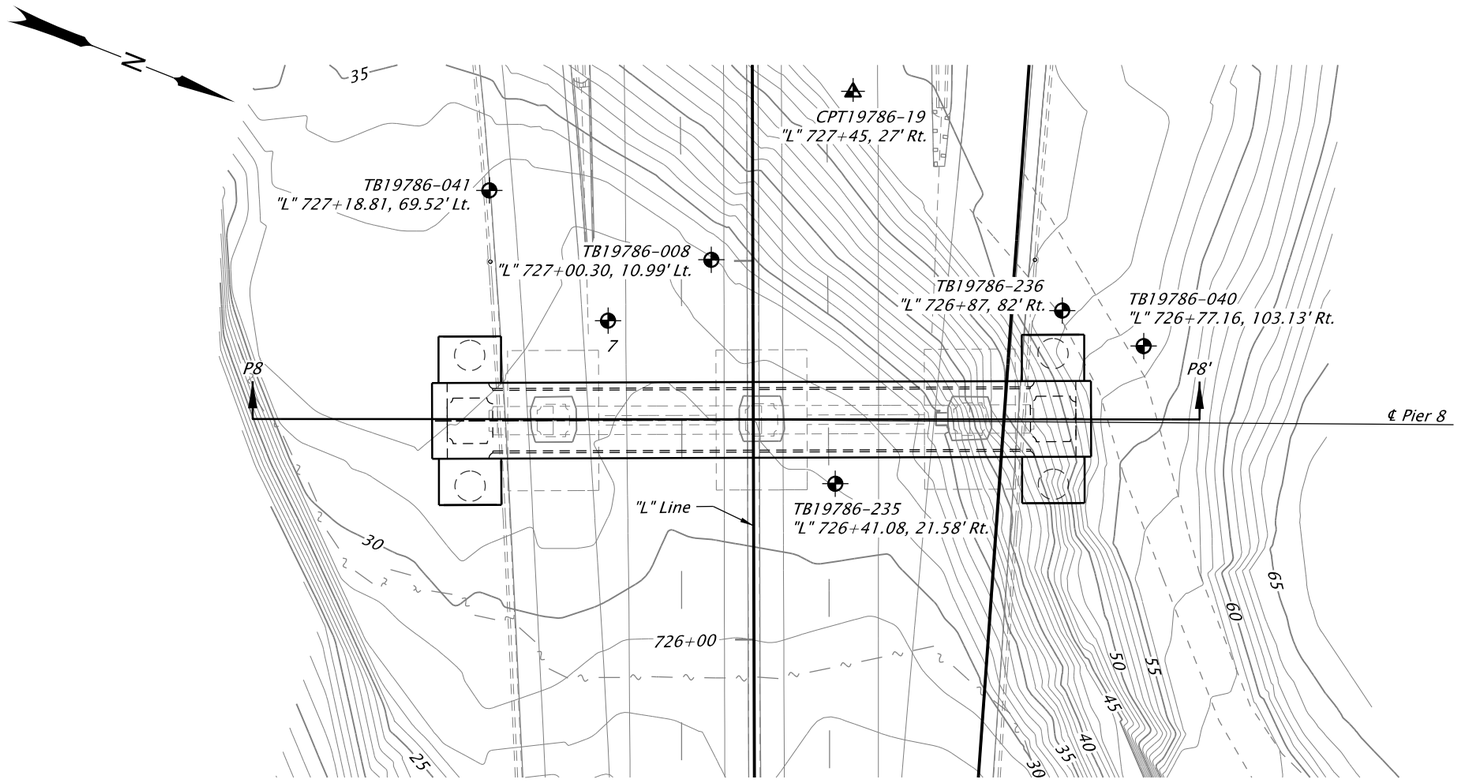
WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: James Walters | Reviewer: Risheng "Park" Piao
Drafter: Aimee Holmes | Checker: Cody Sorensen

PIER 7 GEOTECHNICAL DATA - 2

SHEET NO. JBC16



LEGEND

= *Boring location (See Note 4)*

= *Cone Penetrometer Test Location (See Note 2)*

PLAN

Scale: 1"=40'-0"

GENERAL NOTES:

1. *Elevations are based on North American Vertical Datum (1988).*
2. *See Geotechnical Data Report for data obtained through cone penetrometer testing and OYO suspension logging.*
3. *1' Contour Interval*
4. *Approximate location of boring 7 is shown for information only. The geotechnical report (Dames & Moore, 1966) is included in the Geotechnical Engineering Report for the Abernethy Bridge, provided as a reference document.*

SCALE WARNING

If scale bar doesn't measure one inch then drawing is not to scale

STRUCTURE NO.	09403
BDS DWG NO.	00000
CALC. BOOK	0000
HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
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WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

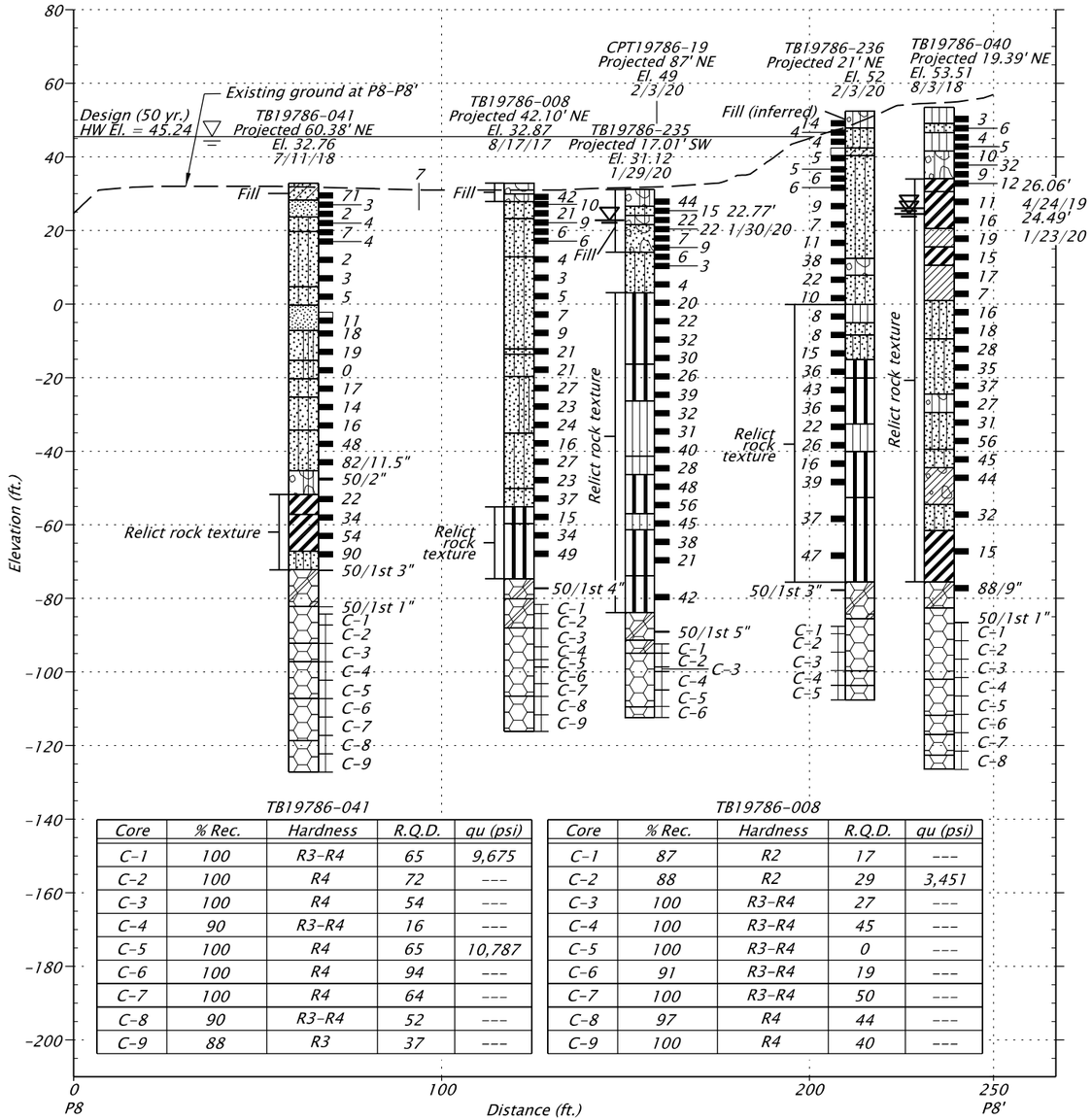
I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: James Walters — Reviewer: Risheng "Park" Piao
Drafter: Aimee Holmes — Checker: Cody Sorensen

PIER 8 GEOTECHNICAL DATA - 1

SHEET NO. JBC17

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST



TB19786-041

Core	% Rec.	Hardness	R.Q.D.	qu (psi)
C-1	100	R3-R4	65	9,675
C-2	100	R4	72	---
C-3	100	R4	54	---
C-4	90	R3-R4	16	---
C-5	100	R4	65	10,787
C-6	100	R4	94	---
C-7	100	R4	64	---
C-8	90	R3-R4	52	---
C-9	88	R3	37	---

TB19786-008

Core	% Rec.	Hardness	R.Q.D.	qu (psi)
C-1	87	R2	17	---
C-2	88	R2	29	3,451
C-3	100	R3-R4	27	---
C-4	100	R3-R4	45	---
C-5	100	R3-R4	0	---
C-6	91	R3-R4	19	---
C-7	100	R3-R4	50	---
C-8	97	R4	44	---
C-9	100	R4	40	---

CROSS SECTION AT P8-P8'

Scale: 1" = 40'-0"

LEGEND

- 20 = 'N'-value; Uncorrected (raw) standard penetration resistance in accordance with ASTM D1586 (See Note 2)
- ▭ = Undisturbed sample (ASTM D1587)
- C-1 = HQ3 core sample (ASTM D2113)
- R.Q.D. = Rock quality designation
- ▽ 00.00' MM/DD/YY = Measured groundwater level (See Note 7) Elevation Date of measurement

Asphalt Concrete; Base Aggregate; Topsoil; Clay; Silty Clay and Clay; Clayey Silt; Silt and Clayey Silt; Organic Clayey Silt; Sand; Sand; Gravel; Boulders and Cobbles; Siltstone; Basalt Breccia; Weathered Basalt; Basalt

SCALE WARNING
If scale bar doesn't measure one inch then drawing is not to scale

UNIT DESCRIPTIONS

GRAVEL with some sand, with cobbles and boulders; GP; Based on drill action and cuttings; Fill

Sandy GRAVEL with some silt; GP-GM; Gray and gray mottled orange-brown; Nonplastic to low plasticity fines; Moist; Dense to very dense; Some zones of fill

SILT with trace to some sand, with no to trace gravel; ML; Dark brown, gray, brown, yellow, gray-brown, orange-brown, yellow-brown, and orange-red; Nonplastic to medium plasticity; Moist to wet; Soft to hard/very loose to loose; Some zones of relict rock texture

Clayey SAND with no to trace gravel; SC; Dark gray and brown; Low to medium plasticity fines; Moist; Loose to very dense; Some zones of fill

Gravelly SILT to Gravelly SILT with some sand; ML; Red to orange mottled; Nonplastic to low plasticity; Moist; Very stiff; Some inferred from drill action and cuttings; Some zones of fill

Silty GRAVEL with some sand to Sandy silty GRAVEL with cobbles; GM; Brown; Nonplastic to medium plasticity fines; Moist to wet; Loose to dense; Some zones of fill

Silty SAND to Gravelly silty SAND; SM; Brown, brown-orange, yellow, dark brown, gray, dark gray, light gray, red-brown, red, and gray mottled orange-brown; Nonplastic to low plasticity fines; Moist to wet; Very loose to very dense; Some zones of fill; Some zones of relict rock texture

SAND with trace silt; SP; Dark gray, brown, and dark brown; Moist to wet; Very loose to medium dense

Sandy SILT, Sandy SILT to Sandy clayey SILT with trace gravel, and Sandy SILT to Sandy SILT with some gravel; ML, ML/MH; Brown, orange-brown, orange, gray, red, yellow, and gray mottled orange-brown; Nonplastic to low plasticity; Damp to moist; Soft to hard; Some zones of relict rock texture

Sandy GRAVEL with trace silt; GP; Gray; Moist; Loose to medium dense; Fill

CLAY to CLAY with some sand and trace gravel and CLAY to Clayey SILT with some sand and trace gravel; CH, CH/MH; Red, brown, gray, yellow, blue, red-brown, orange, red-orange mottled, white mottled, and multicolored; Medium to high plasticity; Damp to wet; Medium stiff to hard; Relict rock texture

SAND with some silt; SP-SM; Brown and dark brown; Nonplastic fines; Wet; Very loose to medium dense

Clayey SILT with trace to some sand, Clayey SILT with sand and gravel, and Sandy clayey SILT with trace gravel; MH; Red, red-orange, brown-red, brown, orange, yellow, gray-orange, gray, dark brown, orange-brown, red-brown, yellow-brown, green, blue-gray, dark red-brown, and gray-brown; Low to high plasticity; Moist; Stiff to hard; Relict rock texture

Silty CLAY with trace sand and gravel; CL; Red-orange mottled; Low to medium plasticity; Moist to wet; Very stiff; Relict rock texture

Gravelly silty CLAY; CL; Gray mottled orange-brown; Low to medium plasticity; Moist; Hard; Relict rock texture

WEATHERED BASALT and BASALT; Gray, brown, orange, dark gray-brown, dark brown, orange-brown, yellow-brown, and brown-gray; Decomposed to moderately weathered; (R0-R3); Very close to moderately close jointed; Some zones remold to Sandy SILT with some gravel (ML) and Clayey SAND with trace gravel (SC)

BASALT; Gray, dark gray, brown-gray, red-brown, black, red-gray, and blue-gray; Fresh to moderately weathered; (R3-R4); Very close to moderately close jointed

TB19786-040

Core	% Rec.	Hardness	R.Q.D.	qu (psi)
C-1	86	R3-R4	51	6,951
C-2	100	R3-R4	84	8,311
C-3	100	R3-R4	84	---
C-4	94	R3-R4	26	---
C-5	100	R3-R4	46	---
C-6	100	R4	58	---
C-7	100	R4	30	---
C-8	100	R3-R4	30	---

TB19786-235

Core	% Rec.	Hardness	R.Q.D.	qu (psi)
C-1	64	R2-R3	60	5,493
C-2	100	R3-R4	100	8,033
C-3	100	R3	92	---
C-4	100	R3	32	---
C-5	100	R3	31	---
C-6	100	R3-R4	86	12,723

TB19786-236

Core	% Rec.	Hardness	R.Q.D.	qu (psi)
C-1	100	R3-R4	70	20,108
C-2	100	R3-R4	96	---
C-3	90	R3-R4	54	---
C-4	68	R3-R4	0	105
C-5	100	R4	73	---

GENERAL NOTES:

1. Elevations are based on North American Vertical Datum (1988).
2. Borings TB19786-008 and TB19786-041 were sampled with a hammer efficiency of 88%, borings TB19786-235 and TB19786-236 were sampled with a hammer efficiency of 86%, and boring TB19876-040 was sampled with a hammer efficiency of 90%.
3. Approximate location of boring 7 is shown for information only. The geotechnical report (Dames & Moore, 1966) is included in the Geotechnical Engineering Report for the Abernethy Bridge, provided as a reference document.
4. See Geotechnical Data Report for data obtained through cone penetrometer testing and OYO suspension logging.
5. Geotechnical data shown on this drawing are a consolidation of information and/or revision in terminology from the drill logs. More detailed subsurface data is available on the drill logs in the geotechnical report, which is available from the Engineer.
6. Refer to the ODOT Soil and Rock Classification Manual (1987) for a description of the terms used on this sheet.
7. Borings were drilled using mud rotary and coring drilling techniques, which make it difficult to discern depth to groundwater during drilling, if it is encountered, due to the use of drilling fluid in the boreholes.
8. BOULDER ADVISORY: Boulders and cobbles were encountered during drilling for this and other nearby features and are noted on the drill logs. Boulders and cobbles may be encountered throughout the project area.

STRUCTURE NO. 09403
BDS DWG NO. 00000
CALC. BOOK 0000
HWY: 064
M.P.: 9.03
COUNTY Clackamas
DATE 05/21

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WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

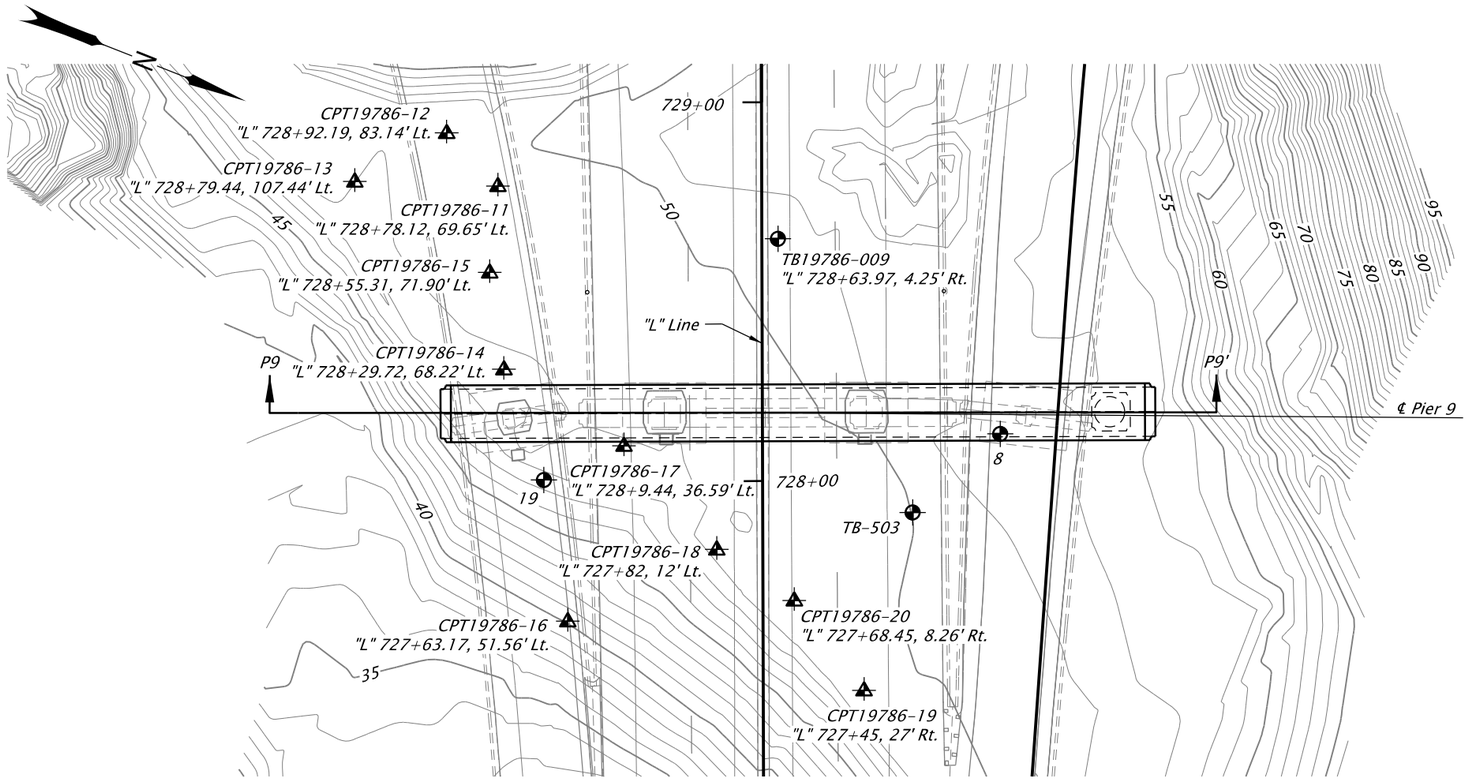
I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: James Walters
Drafter: Aimee Holmes
Reviewer: Risheng "Park" Piao
Checker: Cody Sorensen

PIER 8 GEOTECHNICAL DATA - 2

SHEET NO. JBC18

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST



PLAN
Scale: 1"=40'-0"

LEGEND

= *Boring location (See Note 4)*

= *Cone Penetrometer Test Location (See Note 2)*

GENERAL NOTES:

1. *Elevations are based on North American Vertical Datum (1988).*
2. *See Geotechnical Data Report for data obtained through cone penetrometer testing and OYO suspension logging.*
3. *1' Contour Interval*
4. *Approximate locations of borings 8, 19, and TB-503 are shown for information only. The geotechnical reports (Dames & Moore, 1966, and ODOT, 1999) are included in the Geotechnical Engineering Report for the Abernethy Bridge, provided as a reference document.*

SCALE WARNING
If scale bar doesn't measure one inch then drawing is not to scale

STRUCTURE NO.	09403
BDS DWG NO.	00000
CALC. BOOK	0000
HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
DATE	05/21

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WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

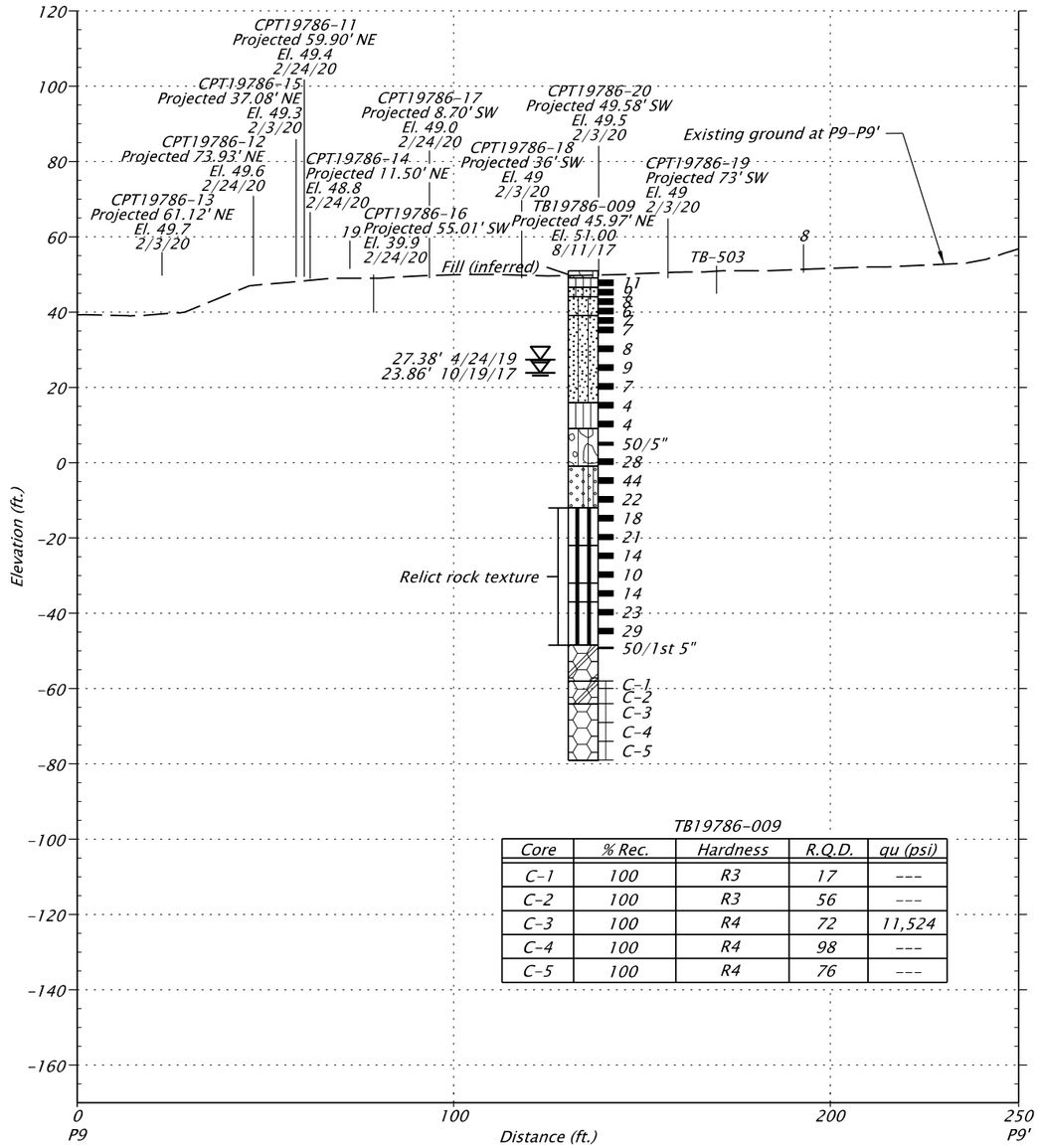
I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: James Walters — Reviewer: Risheng "Park" Piao
Drafter: Aimee Holmes — Checker: Cody Sorensen

PIER 9 GEOTECHNICAL DATA - 1

SHEET NO. JBC19

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST



TB19786-009

Core	% Rec.	Hardness	R.Q.D.	qu (psi)
C-1	100	R3	17	---
C-2	100	R3	56	---
C-3	100	R4	72	11,524
C-4	100	R4	98	---
C-5	100	R4	76	---

CROSS SECTION AT P9-P9'

Scale: 1" = 40'-0"

LEGEND

- 20 = 'N'-value; Uncorrected (raw) standard penetration resistance in accordance with ASTM D1586 (See Note 2)
- ▭ = Undisturbed sample (ASTM D1587)
- C-1 = HQ3 core sample (ASTM D2113)
- R.Q.D. = Rock quality designation
- ▽ = Measured groundwater level (See Note 7)
  - 00.00' Elevation
  - MM/DD/YY Date of measurement

- Asphalt Concrete
- Base Aggregate
- Topsoil
- Clay
- Silty Clay and Clay
- Clayey Silt
- Silt and Clayey Silt
- Organic Clayey Silt
- Sand
- Sand
- Gravel
- Boulders and Cobbles
- Siltstone
- Basalt Breccia
- Weathered Basalt
- Basalt

SCALE WARNING

If scale bar doesn't measure one inch then drawing is not to scale

UNIT DESCRIPTIONS

- Sandy GRAVEL; GP; Based on drill action and cuttings; Fill
- SILT with trace to some sand; ML; Brown; Nonplastic to low plasticity; Moist to wet; Soft to stiff
- Sandy SILT; ML; Brown; Nonplastic to low plasticity; Moist
- Silty SAND; SM; Brown; Nonplastic to low plasticity fines; Moist to wet; Loose
- Silty GRAVEL with some sand, with cobbles; GM; Brown, orange, red, and gray; Low plasticity fines; Wet; Medium dense to very dense
- Gravelly SAND with some silt; SW-SM; Gray and brown; Low plasticity fines; Wet; Medium dense to dense
- Clayey SILT with trace sand to Sandy Clayey SILT with no to trace gravel; MH; Red, gray, orange, green, brown, dark brown, yellow, red-orange, and red-brown; Medium to high plasticity; Moist to wet; Stiff to very stiff; Relict rock texture
- BASALT; Gray, dark brown-gray, orange, and white; Predominantly decomposed to moderately weathered; (R0-R3); Very close to close jointed
- BASALT; Dark gray; Fresh to slightly weathered; (R4); Very close to moderately close jointed

GENERAL NOTES:

1. Elevations are based on North American Vertical Datum (1988).
2. Boring TB19876-009 was sampled with a hammer efficiency of 88%.
3. Approximate locations of borings 8, 19, and TB-503 are shown for information only. The geotechnical reports (Dames & Moore, 1966, and ODOT, 1999) are included in the Geotechnical Engineering Report for the Abernethy Bridge, provided as a reference document.
4. See Geotechnical Data Report for data obtained through cone penetrometer testing and OYO suspension logging.
5. Geotechnical data shown on this drawing are a consolidation of information and/or revision in terminology from the drill logs. More detailed subsurface data is available on the drill logs in the geotechnical report, which is available from the Engineer.
6. Refer to the ODOT Soil and Rock Classification Manual (1987) for a description of the terms used on this sheet.
7. Borings were drilled using mud rotary and coring drilling techniques, which make it difficult to discern depth to groundwater during drilling, if it is encountered, due to the use of drilling fluid in the boreholes.
8. BOULDER ADVISORY: Boulders and cobbles were encountered during drilling for this and other nearby features and are noted on the drill logs. Boulders and cobbles may be encountered throughout the project area.

STRUCTURE NO.	09403
BDS DWG NO.	00000
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COUNTY	Clackamas
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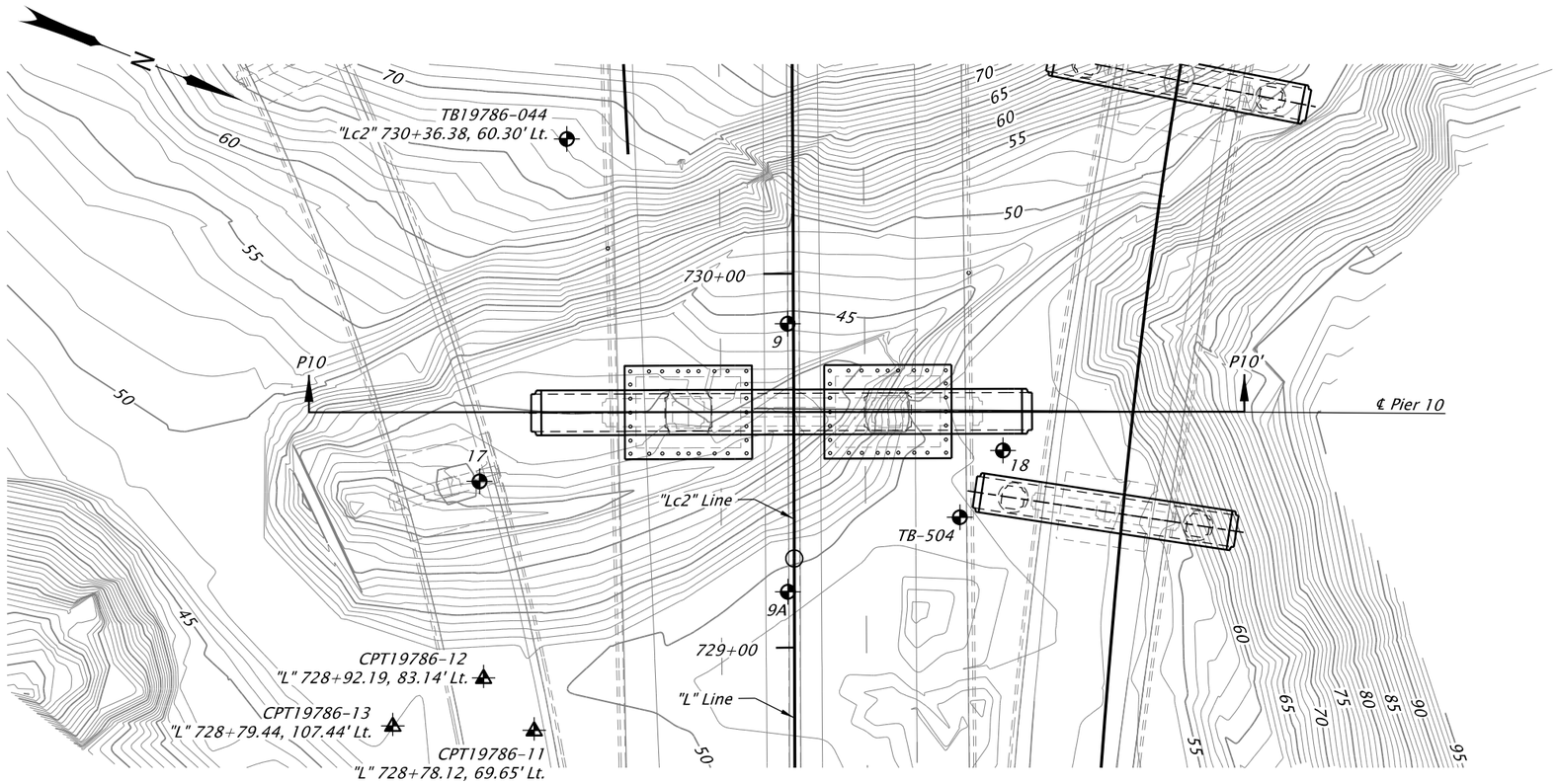
WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: James Walters | Reviewer: Risheng "Park" Piao
Drafter: Aimee Holmes | Checker: Cody Sorensen

PIER 9 GEOTECHNICAL DATA - 2

SHEET NO. JBC20



PLAN
Scale: 1"=40'-0"

LEGEND

= *Boring location (See Note 4)*

= *Cone Penetrometer Test Location (See Note 2)*

GENERAL NOTES:

1. *Elevations are based on North American Vertical Datum (1988).*
2. *See Geotechnical Data Report for data obtained through cone penetrometer testing and OYO suspension logging.*
3. *1' Contour Interval*
4. *Approximate locations of borings 9, 9A, 17, 18, and TB-504 are shown for information only. The geotechnical reports (Dames & Moore, 1966, and ODOT, 1999) are included in the Geotechnical Engineering Report for the Abernethy Bridge, provided as a reference document.*

SCALE WARNING
If scale bar doesn't measure one inch then drawing is not to scale

STRUCTURE NO.	09403
BDS DWG NO.	00000
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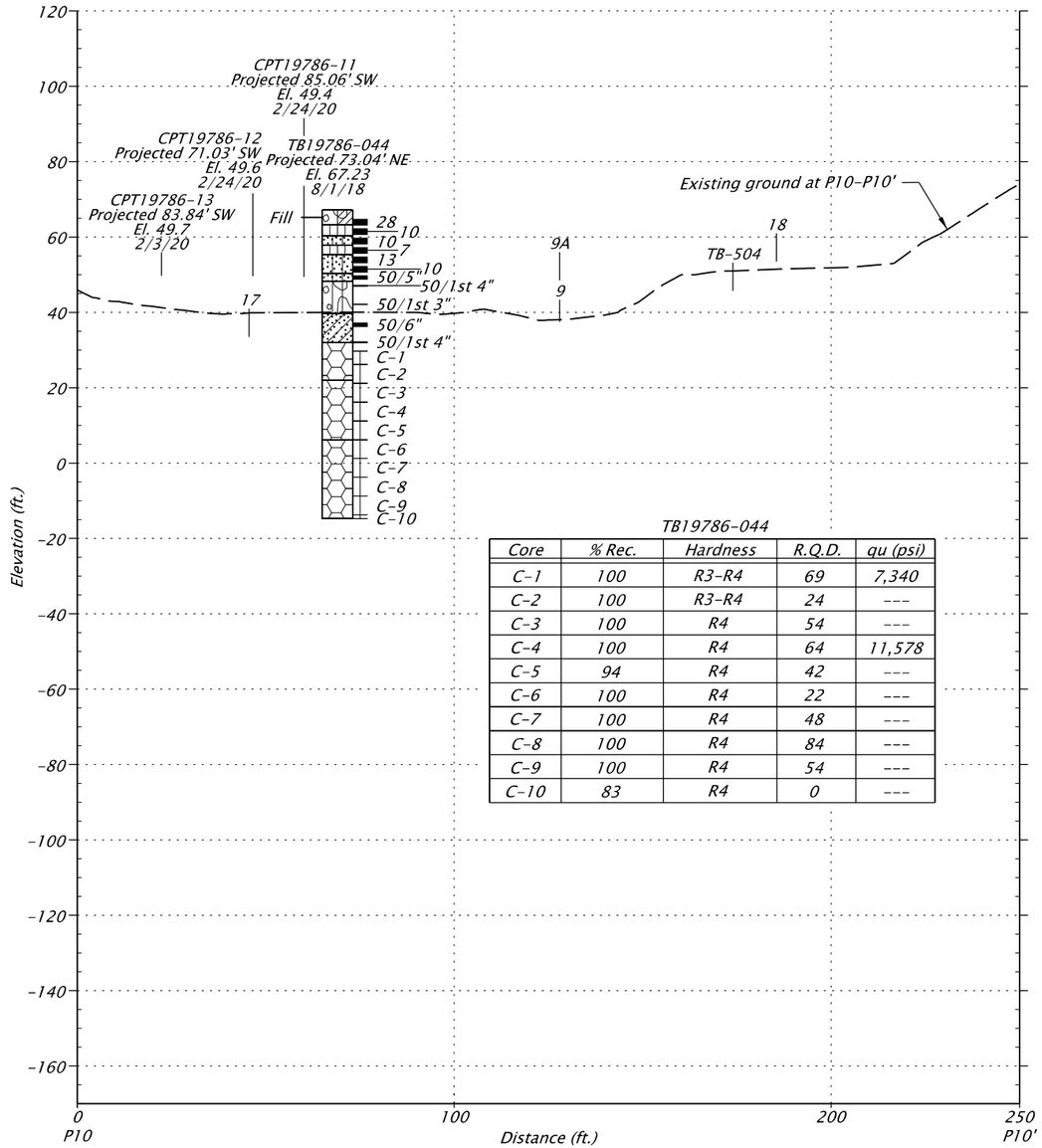
WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: James Walters — Reviewer: Risheng "Park" Piao
Drafter: Aimee Holmes — Checker: Cody Sorensen

PIER 10 GEOTECHNICAL DATA - 1

SHEET NO. JBC21



TB19786-044

Core	% Rec.	Hardness	R.Q.D.	qu (psi)
C-1	100	R3-R4	69	7,340
C-2	100	R3-R4	24	---
C-3	100	R4	54	---
C-4	100	R4	64	11,578
C-5	94	R4	42	---
C-6	100	R4	22	---
C-7	100	R4	48	---
C-8	100	R4	84	---
C-9	100	R4	54	---
C-10	83	R4	0	---

CROSS SECTION AT P10-P10'

Scale: 1" = 40'-0"

UNIT DESCRIPTIONS

- Sandy GRAVEL with some clay; GP-GC; Brown and gray; Medium plasticity fines; Moist; Medium dense; Fill
- SILT with trace to some sand; ML; Brown; Low plasticity; Moist; Medium stiff to stiff
- Silty SAND and Silty SAND with some gravel; SM; Brown and gray-brown; Nonplastic to low plasticity fines; Moist; Loose to very dense
- Silty GRAVEL with some sand; GM; Dark brown; Low plasticity fines; Moist; Very dense
- Sandy CLAY with trace gravel; CL; Grading to Clayey SAND with some gravel; SC; Brown mottled red-yellow; Medium plasticity fines; Moist; Very hard/very dense
- BASALT; Gray and brown-gray; Fresh to moderately weathered; (R3-R4); Very close to moderately close jointed

GENERAL NOTES:

1. Elevations are based on North American Vertical Datum (1988).
2. Boring TB19876-044 was sampled with a hammer efficiency of 90%.
3. Approximate locations of borings 9, 9A, 17, 18, and TB-504 are shown for information only. The geotechnical reports (Dames & Moore, 1966, and ODOT, 1999) are included in the Geotechnical Engineering Report for the Abernethy Bridge, provided as a reference document.
4. See Geotechnical Data Report for data obtained through cone penetrometer testing and OYO suspension logging.
5. Geotechnical data shown on this drawing are a consolidation of information and/or revision in terminology from the drill logs. More detailed subsurface data is available on the drill logs in the geotechnical report, which is available from the Engineer.
6. Refer to the ODOT Soil and Rock Classification Manual (1987) for a description of the terms used on this sheet.
7. Borings were drilled using mud rotary and coring drilling techniques, which make it difficult to discern depth to groundwater during drilling, if it is encountered, due to the use of drilling fluid in the boreholes.
8. BOULDER ADVISORY: Boulders and cobbles were encountered during drilling for this and other nearby features and are noted on the drill logs. Boulders and cobbles may be encountered throughout the project area.

LEGEND

- 20 = 'N'-value; Uncorrected (raw) standard penetration resistance in accordance with ASTM D1586 (See Note 2)
- ▭ = Undisturbed sample (ASTM D1587)
- C-1 = HQ3 core sample (ASTM D2113)
- R.Q.D. = Rock quality designation
- ▽ = Measured groundwater level (See Note 7)
- 00.00' = Elevation
- MM/DD/YY = Date of measurement

Asphalt Concrete; Base Aggregate; Topsoil; Clay; Silty Clay and Clay; Clayey Silt; Silt and Clayey Silt; Organic Clayey Silt; Sand; Sand; Gravel; Boulders and Cobbles; Siltstone; Basalt Breccia; Weathered Basalt; Basalt

SCALE WARNING
If scale bar doesn't measure one inch then drawing is not to scale

STRUCTURE NO.	09403
BDS DWG NO.	00000
CALC. BOOK	0000
HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
DATE	05/21

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WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

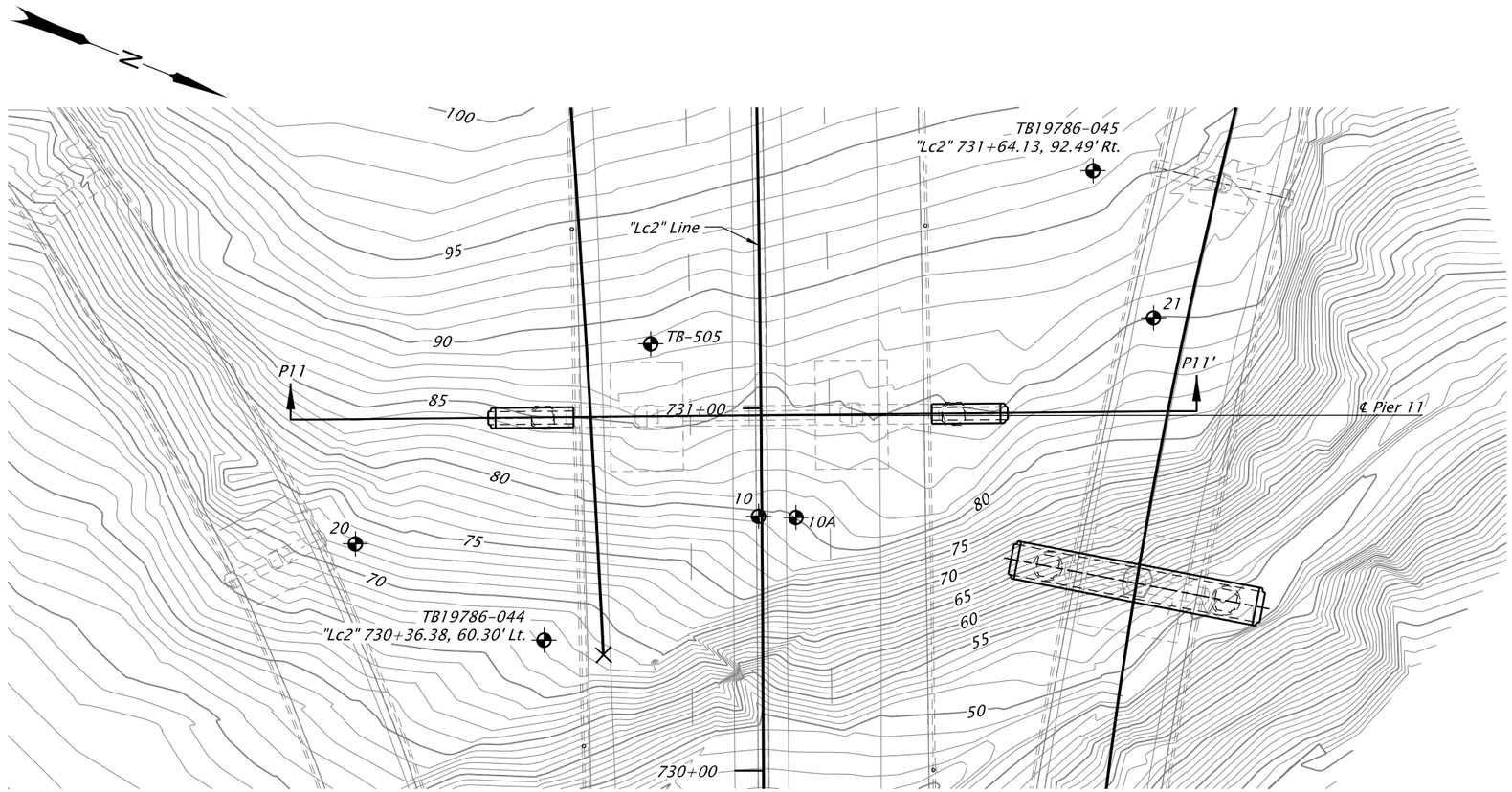
I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: James Walters — Reviewer: Risheng "Park" Piao
Drafter: Aimee Holmes — Checker: Cody Sorensen

PIER 10 GEOTECHNICAL DATA - 2

SHEET NO. JBC22

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST



LEGEND

= *Boring location (See Note 4)*

= *Cone Penetrometer Test Location (See Note 2)*

PLAN

Scale: 1"=40'-0"

GENERAL NOTES:

1. *Elevations are based on North American Vertical Datum (1988).*
2. *See Geotechnical Data Report for data obtained through cone penetrometer testing and OYO suspension logging.*
3. *1' Contour Interval*
4. *Approximate locations of borings 10, 10A, 20, 21, and TB-505 are shown for information only. The geotechnical reports (Dames & Moore, 1966, and ODOT, 1999) are included in the Geotechnical Engineering Report for the Abernethy Bridge, provided as a reference document.*

SCALE WARNING

If scale bar doesn't measure one inch then drawing is not to scale

STRUCTURE NO.	09403
BDS DWG NO.	00000
CALC. BOOK	0000
HWY: 064	M.P.: 9.03
COUNTY	Clackamas
DATE	05/21

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WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

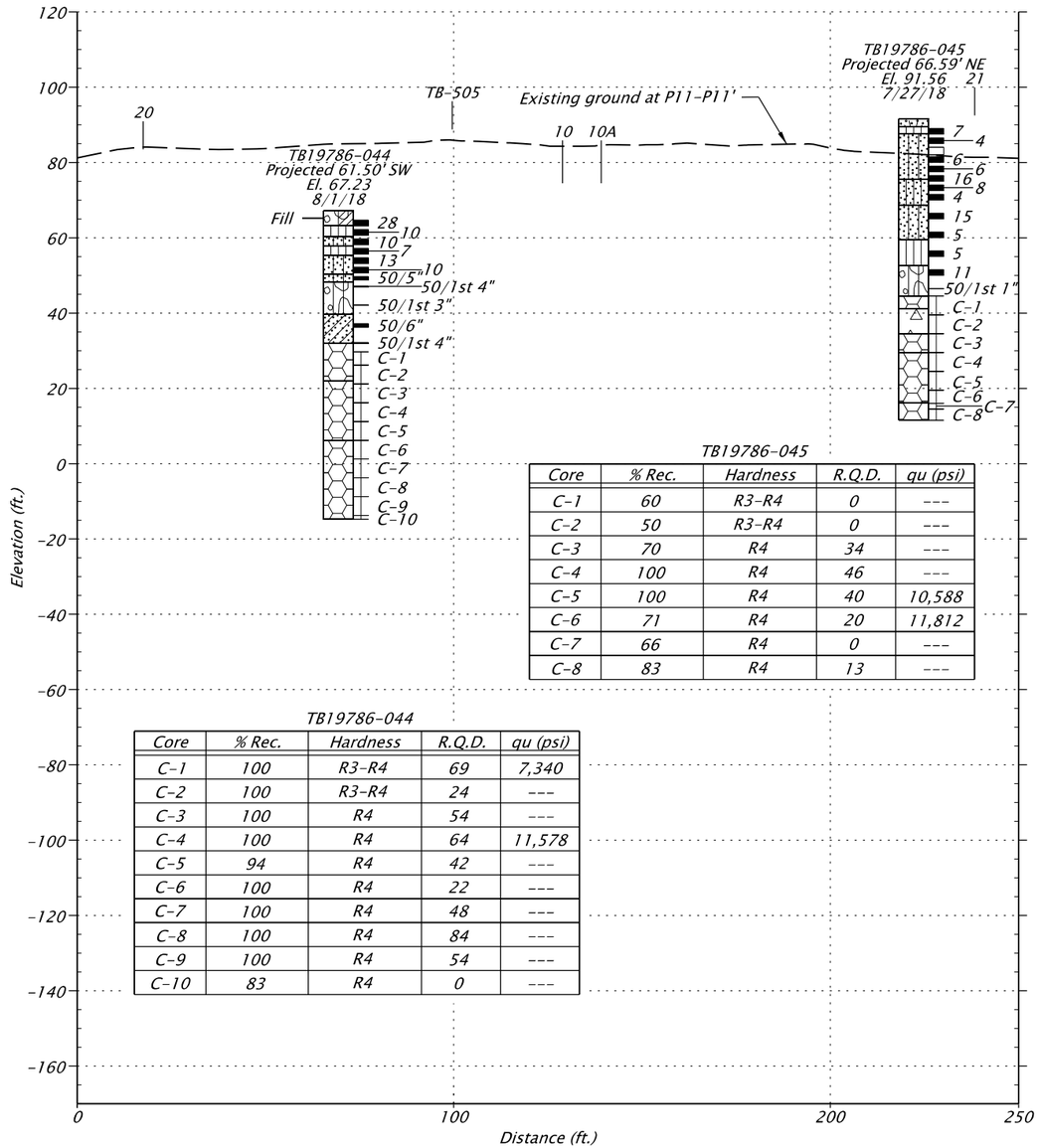
Designer: James Walters | Reviewer: Risheng "Park" Piao
Drafter: Aimee Holmes | Checker: Cody Sorensen

PIER 11 GEOTECHNICAL DATA - 1

SHEET NO. JBC23

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

DRAFT - NOT FOR CONSTRUCTION - SUBJECT TO CHANGE



TB19786-045

Core	% Rec.	Hardness	R.Q.D.	qu (psi)
C-1	60	R3-R4	0	---
C-2	50	R3-R4	0	---
C-3	70	R4	34	---
C-4	100	R4	46	---
C-5	100	R4	40	10,588
C-6	71	R4	20	11,812
C-7	66	R4	0	---
C-8	83	R4	13	---

TB19786-044

Core	% Rec.	Hardness	R.Q.D.	qu (psi)
C-1	100	R3-R4	69	7,340
C-2	100	R3-R4	24	---
C-3	100	R4	54	---
C-4	100	R4	64	11,578
C-5	94	R4	42	---
C-6	100	R4	22	---
C-7	100	R4	48	---
C-8	100	R4	84	---
C-9	100	R4	54	---
C-10	83	R4	0	---

CROSS SECTION AT P11-P11'

Scale: 1" = 40'-0"

LEGEND

- 20 = 'N'-value; Uncorrected (raw) standard penetration resistance in accordance with ASTM D1586 (See Note 2)
- ▭ = Undisturbed sample (ASTM D1587)
- C-1 = HQ3 core sample (ASTM D2113)
- R.Q.D. = Rock quality designation
- ▽ = Measured groundwater level (See Note 7)
- 00.00' = Elevation
- MM/DD/YY = Date of measurement

Asphalt Concrete; Base Aggregate; Topsoil; Clay; Silty Clay and Clay; Clayey Silt; Silt and Clayey Silt; Organic Clayey Silt; Sand; Sand; Gravel; Boulders and Cobbles; Siltstone; Basalt Breccia; Weathered Basalt; Basalt

UNIT DESCRIPTIONS

- TOPSOIL
- Sandy GRAVEL with some clay; GP-GC; Brown and gray; Medium plasticity fines; Moist; Medium dense; Fill
- SILT with trace to some sand; ML; Brown; Low plasticity; Moist to wet; Medium stiff to stiff
- Silty SAND and Silty SAND with some gravel; SM; Brown and gray-brown; Nonplastic to low plasticity fines; Moist; Very loose to very dense
- Sandy SILT; ML; Brown; Low plasticity; Moist; Soft to stiff
- Silty GRAVEL with some sand; GM; Gray, brown, and dark brown; Low plasticity fines; Moist; Medium dense to very dense
- Sandy CLAY with trace gravel; CL; Grading to Clayey SAND with some gravel; SC; Brown mottled red-yellow; Medium plasticity fines; Moist; Very hard/very dense
- BASALT BRECCIA; Gray; Moderately weathered to predominantly decomposed; (R2-R4); Very close jointed
- BASALT; Gray and brown-gray; Fresh to predominantly decomposed; (R2-R4); Very close to moderately close jointed

GENERAL NOTES:

1. Elevations are based on North American Vertical Datum (1988).
2. Boring TB19876-044 was sampled with a hammer efficiency of 90% and boring TB19876-045 was sampled with a hammer efficiency of 88%.
3. Approximate locations of borings 10, 10A, 20, 21, and TB-505 are shown for information only. The geotechnical reports (Dames & Moore, 1966, and ODOT, 1999) are included in the Geotechnical Engineering Report for the Abernethy Bridge, provided as a reference document.
4. See Geotechnical Data Report for data obtained through cone penetrometer testing and OYO suspension logging.
5. Geotechnical data shown on this drawing are a consolidation of information and/or revision in terminology from the drill logs. More detailed subsurface data is available on the drill logs in the geotechnical report, which is available from the Engineer.
6. Refer to the ODOT Soil and Rock Classification Manual (1987) for a description of the terms used on this sheet.
7. Borings were drilled using mud rotary and coring drilling techniques, which make it difficult to discern depth to groundwater during drilling, if it is encountered, due to the use of drilling fluid in the boreholes.
8. BOULDER ADVISORY: Boulders and cobbles were encountered during drilling for this and other nearby features and are noted on the drill logs. Boulders and cobbles may be encountered throughout the project area.

SCALE WARNING
If scale bar doesn't measure one inch then drawing is not to scale

STRUCTURE NO. 09403
BDS DWG NO. 00000
CALC. BOOK 0000
HWY: 064
M.P.: 9.03
COUNTY Clackamas
DATE 05/21

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GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS
3990 Collins Way, Suite 100
Lake Oswego, Oregon 97035
(503) 210-4750 FAX: (206) 695-6777
www.shannonwilson.com

WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

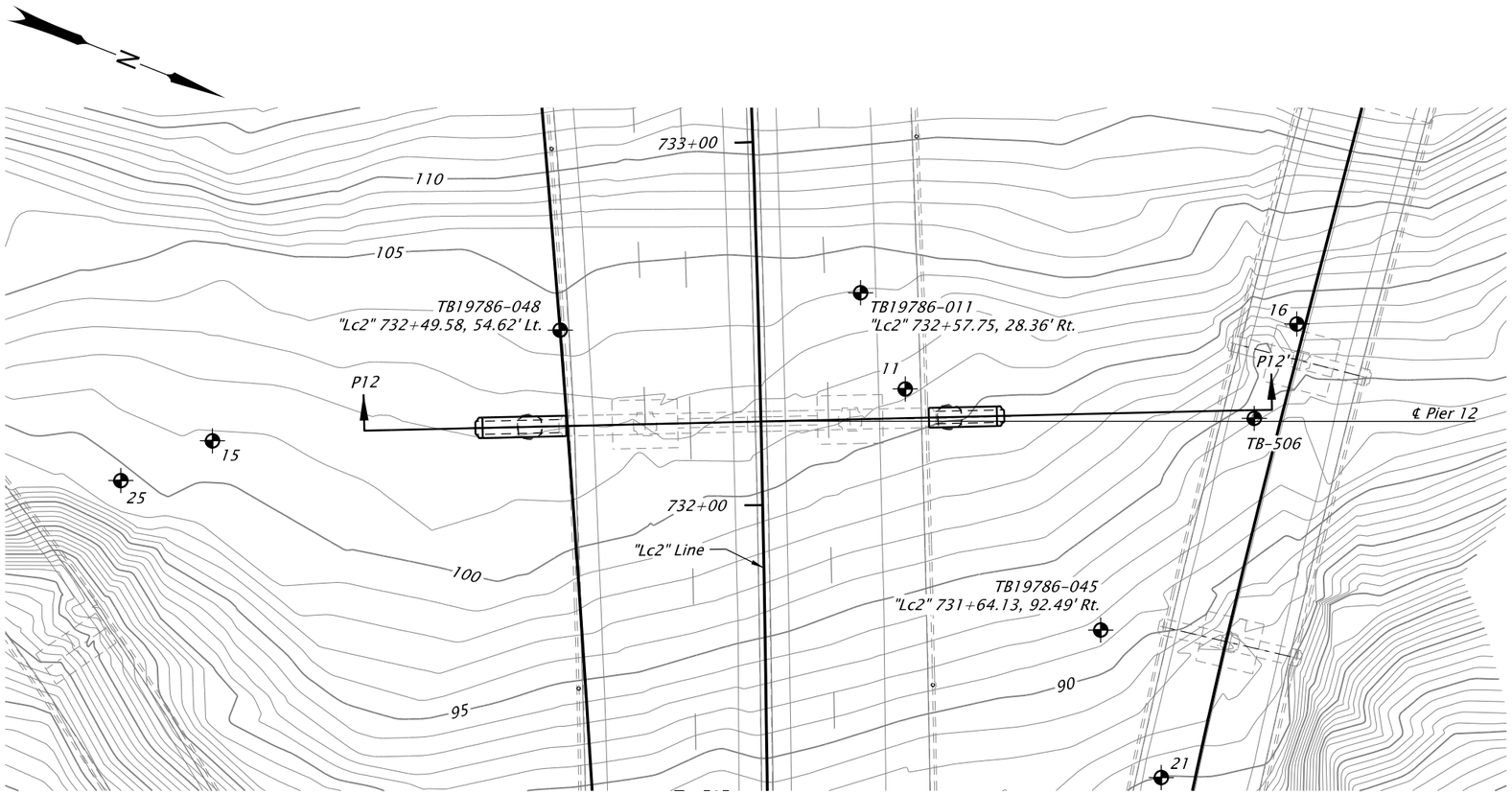
I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: James Walters
Drafter: Aimee Holmes
Reviewer: Risheng "Park" Piao
Checker: Cody Sorensen

PIER 11 GEOTECHNICAL DATA - 2

SHEET NO. JBC24

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST



LEGEND

= *Boring location (See Note 4)*

= *Cone Penetrometer Test Location (See Note 2)*

PLAN

Scale: 1"=40'-0"

GENERAL NOTES:

1. *Elevations are based on North American Vertical Datum (1988).*
2. *See Geotechnical Data Report for data obtained through cone penetrometer testing and OYO suspension logging.*
3. *1' Contour Interval*
4. *Approximate locations of borings 11, 15, 16, 21, 25, and TB-506 are shown for information only. The geotechnical reports (Dames & Moore, 1966, and ODOT, 1999) are included in the Geotechnical Engineering Report for the Abernethy Bridge, provided as a reference document.*

SCALE WARNING

If scale bar doesn't measure one inch then drawing is not to scale

STRUCTURE NO.	09403
BDS DWG NO.	00000
CALC. BOOK	0000
HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
DATE	05/21

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WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

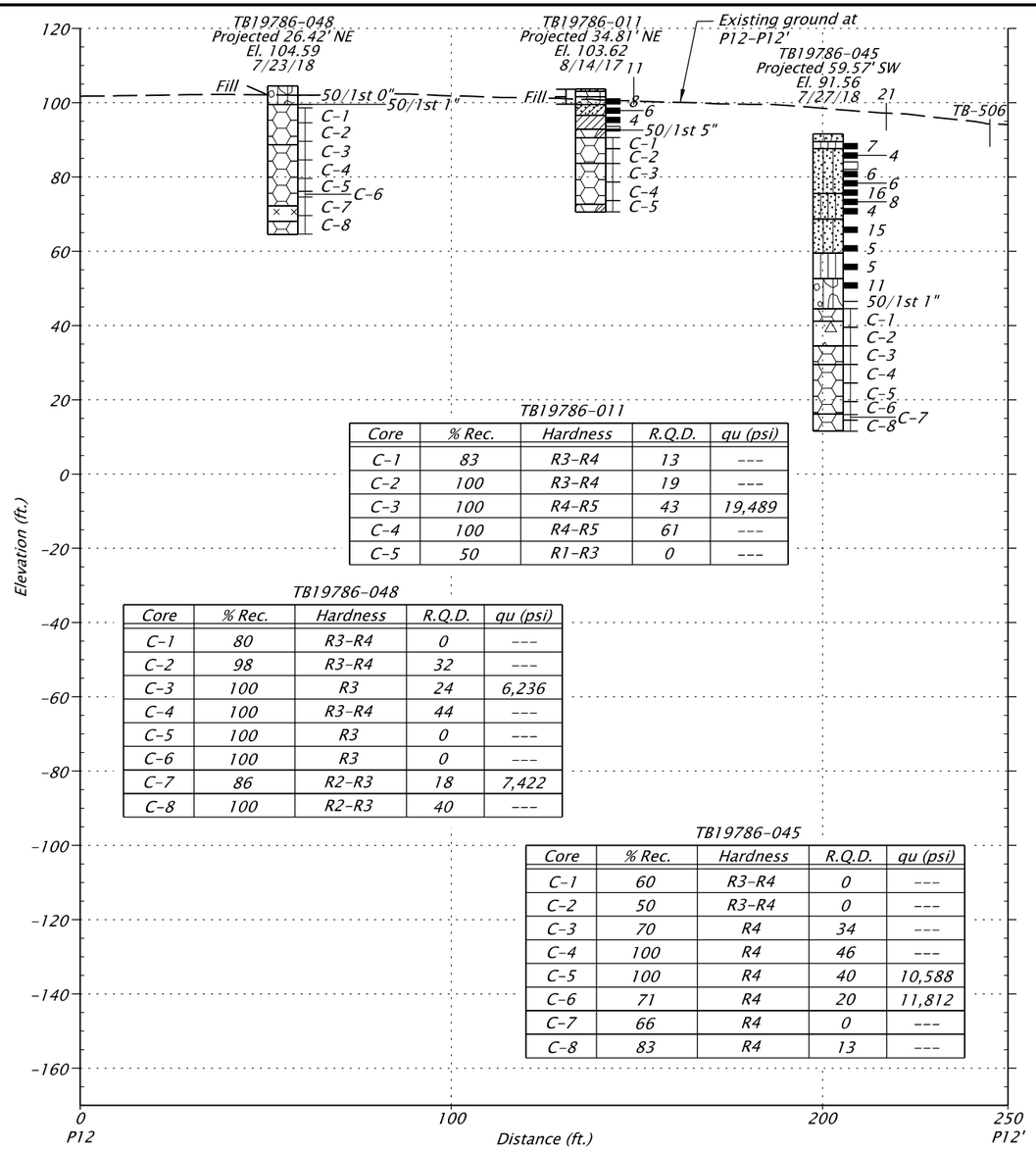
I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: James Walters | Reviewer: Risheng "Park" Piao
Drafter: Aimee Holmes | Checker: Cody Sorensen

PIER 12 GEOTECHNICAL DATA - 1

SHEET NO. JBC25

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST



TB19786-011

Core	% Rec.	Hardness	R.Q.D.	qu (psi)
C-1	83	R3-R4	13	---
C-2	100	R3-R4	19	---
C-3	100	R4-R5	43	19,489
C-4	100	R4-R5	61	---
C-5	50	R1-R3	0	---

TB19786-048

Core	% Rec.	Hardness	R.Q.D.	qu (psi)
C-1	80	R3-R4	0	---
C-2	98	R3-R4	32	---
C-3	100	R3	24	6,236
C-4	100	R3-R4	44	---
C-5	100	R3	0	---
C-6	100	R3	0	---
C-7	86	R2-R3	18	7,422
C-8	100	R2-R3	40	---

TB19786-045

Core	% Rec.	Hardness	R.Q.D.	qu (psi)
C-1	60	R3-R4	0	---
C-2	50	R3-R4	0	---
C-3	70	R4	34	---
C-4	100	R4	46	---
C-5	100	R4	40	10,588
C-6	71	R4	20	11,812
C-7	66	R4	0	---
C-8	83	R4	13	---

CROSS SECTION AT P12-P12'

Scale: 1" = 40'-0"

UNIT DESCRIPTIONS

- TOPSOIL
- Silty SAND; SM; Brown; Nonplastic to low plasticity fines; Moist to wet; Very loose to medium dense; Some zones of fill
- Silty GRAVEL with some sand; GM; Gray, brown, and dark brown; Low plasticity fines; Damp to moist; Medium dense to very dense; Some zones of fill; Some zones based on drill action and cuttings
- Sandy GRAVEL and GRAVEL with wood debris; GP; Dark gray; Loose; Based on driller, drill action, and cuttings; Fill
- SILT with some sand; ML; Brown; Low plasticity; Moist to wet; Medium stiff
- Sandy silty CLAY; CL; Brown; Medium plasticity; Moist; Medium stiff
- Silty CLAY with some sand; CL; Brown; Medium plasticity; Moist; Soft to medium stiff
- Sandy SILT; ML; Brown; Low plasticity; Moist; Soft to stiff
- BASALT; Dark gray, orange, and brown; Moderately weathered to predominantly decomposed; (R1-R3); Very close to close jointed
- BASALT; Gray, brown-gray, and brown; Fresh to predominantly decomposed; (R2-R5); Very close to close jointed
- SILTSTONE; Gray and dark gray; Moderately weathered; (R2-R3); Very close to close jointed
- BASALT BRECCIA; Gray; Moderately weathered to predominantly decomposed; (R2-R4); Very close jointed

GENERAL NOTES:

1. Elevations are based on North American Vertical Datum (1988).
2. Borings were sampled with a hammer efficiency of 88%.
3. Approximate locations of borings 11, 21, and TB-506 are shown for information only. The geotechnical reports (Dames & Moore, 1966, and ODOT, 1999) are included in the Geotechnical Engineering Report for the Abernethy Bridge, provided as a reference document.
4. See Geotechnical Data Report for data obtained through cone penetrometer testing and OYO suspension logging.
5. Geotechnical data shown on this drawing are a consolidation of information and/or revision in terminology from the drill logs. More detailed subsurface data is available on the drill logs in the geotechnical report, which is available from the Engineer.
6. Refer to the ODOT Soil and Rock Classification Manual (1987) for a description of the terms used on this sheet.
7. Borings were drilled using mud rotary and coring drilling techniques, which make it difficult to discern depth to groundwater during drilling, if it is encountered, due to the use of drilling fluid in the boreholes.
8. BOULDER ADVISORY: Boulders and cobbles were encountered during drilling for this and other nearby features and are noted on the drill logs. Boulders and cobbles may be encountered throughout the project area.

LEGEND

- 20 = 'N'-value; Uncorrected (raw) standard penetration resistance in accordance with ASTM D1586 (See Note 2)
- ▭ = Undisturbed sample (ASTM D1587)
- C-1 = HQ3 core sample (ASTM D2113)
- R.Q.D. = Rock quality designation
- ▽ = Measured groundwater level (See Note 7)
- 00.00' = Elevation
- MM/DD/YY = Date of measurement

Asphalt Concrete; Base Aggregate; Topsoil; Clay; Silty Clay and Clay; Clayey Silt; Silt and Clayey Silt; Organic Clayey Silt; Sand; Sand; Gravel; Boulders and Cobbles; Siltstone; Basalt Breccia; Weathered Basalt; Basalt

SCALE WARNING
If scale bar doesn't measure one inch then drawing is not to scale

STRUCTURE NO.	09403
BDS DWG NO.	00000
CALC. BOOK	0000
HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
DATE	05/21

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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

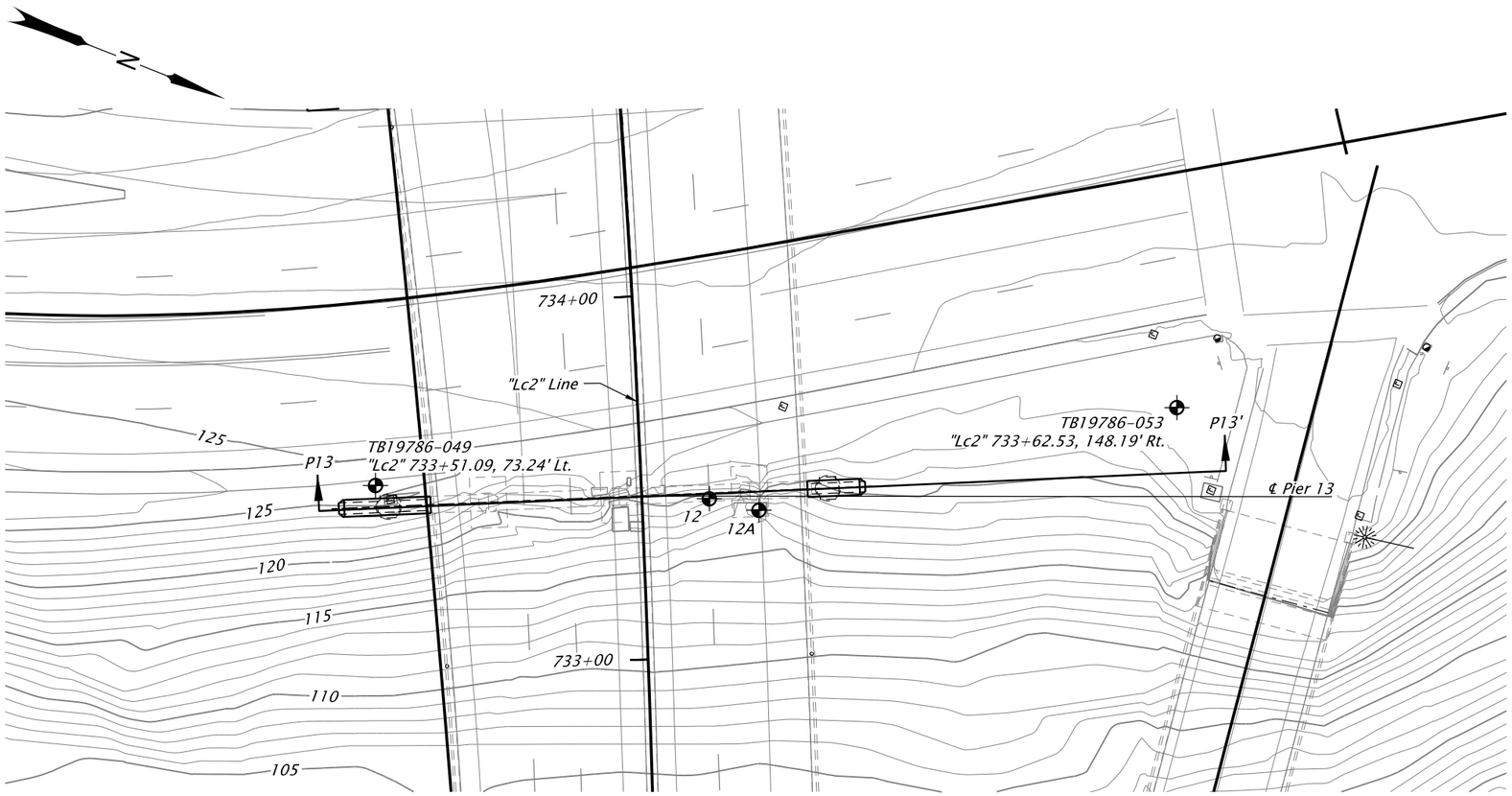
Designer: James Walters | Reviewer: Risheng "Park" Piao
Drafter: Aimee Holmes | Checker: Cody Sorensen

PIER 12 GEOTECHNICAL DATA - 2

SHEET NO. JBC26

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

DRAFT - NOT FOR CONSTRUCTION - SUBJECT TO CHANGE



LEGEND

= *Boring location (See Note 4)*

= *Cone Penetrometer Test Location (See Note 2)*

PLAN

Scale: 1"=40'-0"

GENERAL NOTES:

1. *Elevations are based on North American Vertical Datum (1988).*
2. *See Geotechnical Data Report for data obtained through cone penetrometer testing and OYO suspension logging.*
3. *1' Contour Interval*
4. *Approximate locations of borings 12 and 12A are shown for information only. The geotechnical report (Dames & Moore, 1966) is included in the Geotechnical Engineering Report for the Abernethy Bridge, provided as a reference document.*

SCALE WARNING
If scale bar doesn't measure one inch then drawing is not to scale

STRUCTURE NO.	09403
BDS DWG NO.	00000
CALC. BOOK	0000
HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
DATE	05/21

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WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

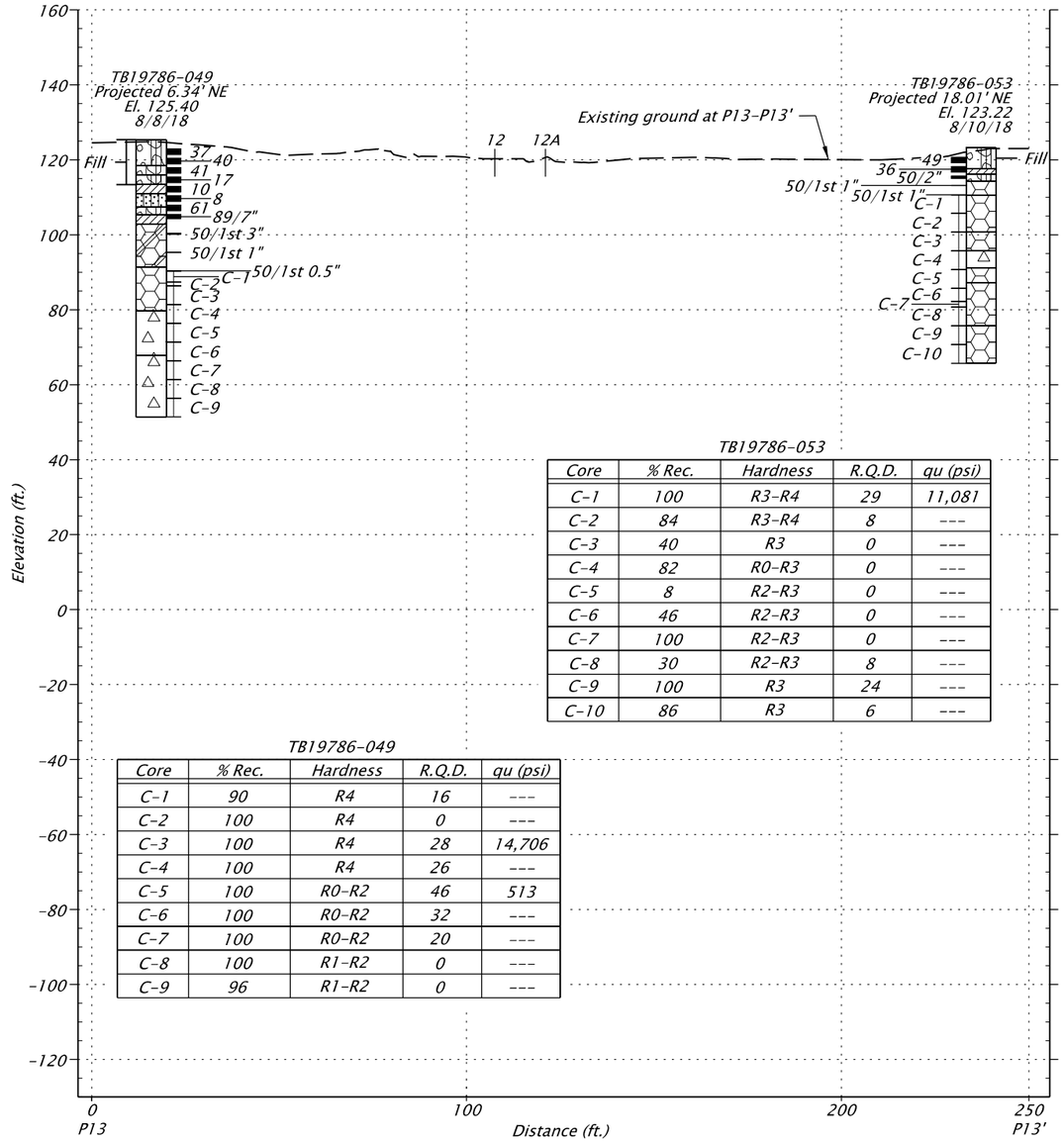
I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: James Walters — Reviewer: Risheng "Park" Piao
Drafter: Aimee Holmes — Checker: Cody Sorensen

PIER 13 GEOTECHNICAL DATA - 1

SHEET NO. JBC27

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST



TB19786-053

Core	% Rec.	Hardness	R.Q.D.	qu (psi)
C-1	100	R3-R4	29	11,081
C-2	84	R3-R4	8	---
C-3	40	R3	0	---
C-4	82	R0-R3	0	---
C-5	8	R2-R3	0	---
C-6	46	R2-R3	0	---
C-7	100	R2-R3	0	---
C-8	30	R2-R3	8	---
C-9	100	R3	24	---
C-10	86	R3	6	---

TB19786-049

Core	% Rec.	Hardness	R.Q.D.	qu (psi)
C-1	90	R4	16	---
C-2	100	R4	0	---
C-3	100	R4	28	14,706
C-4	100	R4	26	---
C-5	100	R0-R2	46	513
C-6	100	R0-R2	32	---
C-7	100	R0-R2	20	---
C-8	100	R1-R2	0	---
C-9	96	R1-R2	0	---

CROSS SECTION AT P13-P13'

Scale: 1" = 40'-0"

UNIT DESCRIPTIONS

- *Sandy GRAVEL with some silt and GRAVEL with some silt and sand, with cobbles; GP-GM; Brown to gray; Nonplastic to low plasticity fines; Moist to wet; Medium dense to very dense; Some zones of fill*
- *Silty CLAY with some sand and no to trace gravel; CL; Dark gray, brown mottled, and multicolored; Low to high plasticity; Moist; Stiff to very hard*
- *Silty GRAVEL with some sand, with cobbles; GM; Brown and gray; Nonplastic fines; Moist; Dense to very dense; Some zones of fill*
- *Sandy SILT; ML; Red-brown mottled; Low plasticity; Moist; Medium stiff to stiff*
- *WEATHERED BASALT; Based on drill action and cuttings*
- *BASALT; Gray and orange-brown; Slightly to highly weathered; (R1-R4); Very close to close jointed*
- *FAULT BRECCIA; Red, gray, green, white mottled, and multicolored; Moderately weathered to predominantly decomposed; (R0-R4); Very close to moderately close jointed; Sand- to boulder-sized fragments in a fine-grained matrix*

GENERAL NOTES:

1. *Elevations are based on North American Vertical Datum (1988).*
2. *Borings were sampled with a hammer efficiency of 90%.*
3. *Approximate locations of borings 12 and 12A are shown for information only. The geotechnical report (Dames & Moore, 1966) is included in the Geotechnical Engineering Report for the Abernethy Bridge, provided as a reference document.*
4. *See Geotechnical Data Report for data obtained through cone penetrometer testing and OYO suspension logging.*
5. *Geotechnical data shown on this drawing are a consolidation of information and/or revision in terminology from the drill logs. More detailed subsurface data is available on the drill logs in the geotechnical report, which is available from the Engineer.*
6. *Refer to the ODOT Soil and Rock Classification Manual (1987) for a description of the terms used on this sheet.*
7. *Borings were drilled using mud rotary and coring drilling techniques, which make it difficult to discern depth to groundwater during drilling, if it is encountered, due to the use of drilling fluid in the boreholes.*
8. *BOULDER ADVISORY: Boulders and cobbles were encountered during drilling for this and other nearby features and are noted on the drill logs. Boulders and cobbles may be encountered throughout the project area.*

LEGEND

- *20* = *'N'-value; Uncorrected (raw) standard penetration resistance in accordance with ASTM D1586 (See Note 2)*
- ▭ = *Undisturbed sample (ASTM D1587)*
- *C-1* = *HQ3 core sample (ASTM D2113)*
- *R.Q.D.* = *Rock quality designation*
- ▽ = *Measured groundwater level (See Note 7)*
- *00.00'* = *Elevation*
- *MM/DD/YY* = *Date of measurement*

- *Asphalt Concrete*
- *Base Aggregate*
- *Topsoil*
- *Clay*
- *Silty Clay and Clay*
- *Clayey Silt*
- *Silt and Clayey Silt*
- *Organic Clayey Silt*
- *Sand*
- *Sand*
- *Gravel*
- *Boulders and Cobbles*
- *Siltstone*
- *Basalt Breccia*
- *Weathered Basalt*
- *Basalt*

SCALE WARNING

If scale bar doesn't measure one inch then drawing is not to scale

STRUCTURE NO.	09403
BDS DWG NO.	00000
CALC. BOOK	0000
HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
DATE	05/21

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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: James Walters — Reviewer: Risheng "Park" Piao
Drafter: Aimee Holmes — Checker: Cody Sorensen

PIER 13 GEOTECHNICAL DATA - 2

SHEET NO. JBC28

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

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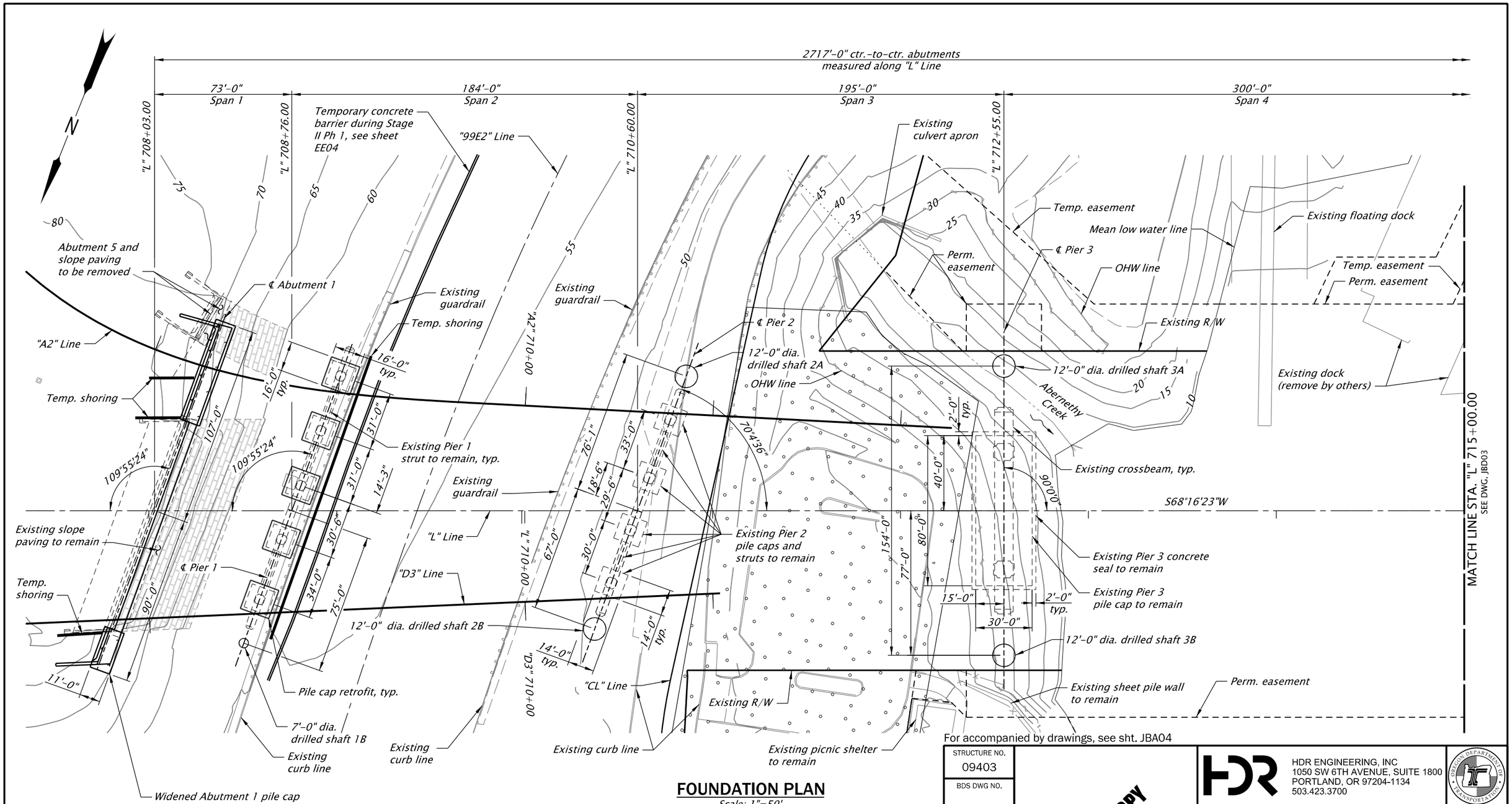

For accompanied by drawings, see sht. JBA04

FOUNDATION PLAN

Scale: 1"=50'

Legend:

Ground improvements

Note:
Provide all shoring as required for construction. The locations and limits shown are only to alert the Contractor that shoring may be necessary to construct the work. The Contractor shall determine the actual locations and limits of all shoring required.

SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

STRUCTURE NO.	09403
BDS DWG NO.	
CALC. BOOK	
HWY: 064	
M.P.: 9.03	
COUNTY	Clackamas
DATE	03/21

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HDR ENGINEERING, INC
1050 SW 6TH AVENUE, SUITE 1800
PORTLAND, OR 97204-1134
503.423.3700

WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Mikal Mitchell
Reviewer: Jeff Olson
Drafter: Heather Gonsior
Checker: Quincy Engineering

FOUNDATION PLAN - 1

SHEET NO. JBD01

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

DRAFT - NOT FOR CONSTRUCTION - SUBJECT TO CHANGE

N

2717'-0" ctr.-to-ctr. abutments
measured along "L" Line

300'-0"
Span 4

430'-0"
Span 5

300'-0"
Span 6

"L" 715+55.00

"L" 719+85.00

Existing dock
(remove by
others)

Temp. easement

Perm. easement

℄ Pier 4

12'-0" dia. drilled shaft 4A

℄ Pier 5

12'-0" dia. drilled shaft 5A

Existing Pier 5
pile cap to remain

Existing Pier 5
concrete seal to remain

2'-0"
typ.

90°0'0"

77'-0"

42'-0"

154'-0"

84'-0"

"L" Line

"L" 720+00

SEE DWG. JBD01
MATCH LINE STA. "L" 715+00.00

MATCH LINE STA. "L" 722+00.00
SEE DWG. JBD05

S68°16'23"W

Existing Pier 4
concrete seal
to remain

Existing Pier 4
pile cap to remain

22'-0"

44'-0"

2'-0"
typ.

18'-0"

36'-0"

Willamette River

12'-0" dia. drilled shaft 4B

12'-0" dia. drilled shaft 5B

Perm. easement

Temp. easement

For accompanied by drawings, see sht. JBA04

FOUNDATION PLAN

Scale: 1"=50'

SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

STRUCTURE NO.	09403
BDS DWG NO.	
CALC. BOOK	
HWY: 064	M.P.: 9.03
COUNTY	Clackamas
DATE	03/21

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1050 SW 6TH AVENUE, SUITE 1800
PORTLAND, OR 97204-1134
503.423.3700

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Mikal Mitchell
Drafter: Heather Gonsior
Reviewer: Jeff Olson
Checker: Quincy Engineering

FOUNDATION PLAN - 2

SHEET NO. JBD03

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

DRAFT - NOT FOR CONSTRUCTION - SUBJECT TO CHANGE

N

2717'-0" ctr.-to-ctr. abutments
measured along "L" Line

300'-0" Span 6 | 195'-0" Span 7 | 178'-0" Span 8 | 160'-0" Span 9 | 145'-0" Span 10

"L" 722+85.00 | "L" 724+80.00 | "L" 726+58.00 | "L" 728+18.00

Temp. easement
Perm. easement
Temp. easement
℄ Pier A3-1
7°38'9"
R/W
℄ Pier 6
12'-0" dia. drilled shaft 6A
Extg. crossbeam, typ.
Existing Pier 6 concrete seal to remain
Existing Pier 6 pile cap to remain
℄ Pier 7
10'-0" dia. drilled shaft 7A
8'-0" dia. drilled shaft 8A-1
℄ Pier 8
8'-0" dia. drilled shaft 8A-2
Existing Pier A3-1 pile cap to remain
℄ Pier 9
Pier 8 shaft cap 8A
OHW line
Existing Pier 7 pile caps and struts to remain
Existing Pier 8 pile caps and struts to remain
Existing Pier 9 pile caps and strut to remain
"D3" Line
℄ Pier C3-1
Existing Pier C3-1 pile cap to remain
12'-0" dia. drilled shaft 6B
10'-0" dia. drilled shaft 7B
8'-0" dia. drilled shaft 8B-1
Pier 8 shaft cap 8B
8'-0" dia. drilled shaft 8B-2
8'-0" dia. drilled shaft 9B
Mean low water line
Perm. easement
Temp. easement
Temp. easement
Temp. shoring

MATCH LINE STA. "L" 722+00.00 SEE DWG. JBD03

MATCH LINE STA. "L" 729+00.00 SEE DWG. JBD07

"L" 722+00.00 BK = "L" 729+00.00 AH

S68°16'23"W

For accompanied by drawings, see sht. JBA04

FOUNDATION PLAN
Scale: 1"=50'

Note:
Provide all shoring as required for construction. The locations and limits shown are only to alert the Contractor that shoring may be necessary to construct the work. The Contractor shall determine the actual locations and limits of all shoring required.

Legend:
Ground improvements

SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

STRUCTURE NO.	09403
BDS DWG NO.	
CALC. BOOK	
HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
DATE	03/21

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PORTLAND, OR 97204-1134
503.423.3700

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Mikal Mitchell | Reviewer: Jeff Olson
Drafter: Heather Gonsior | Checker: Quincy Engineering

FOUNDATION PLAN - 3 | SHEET NO. JBD05

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

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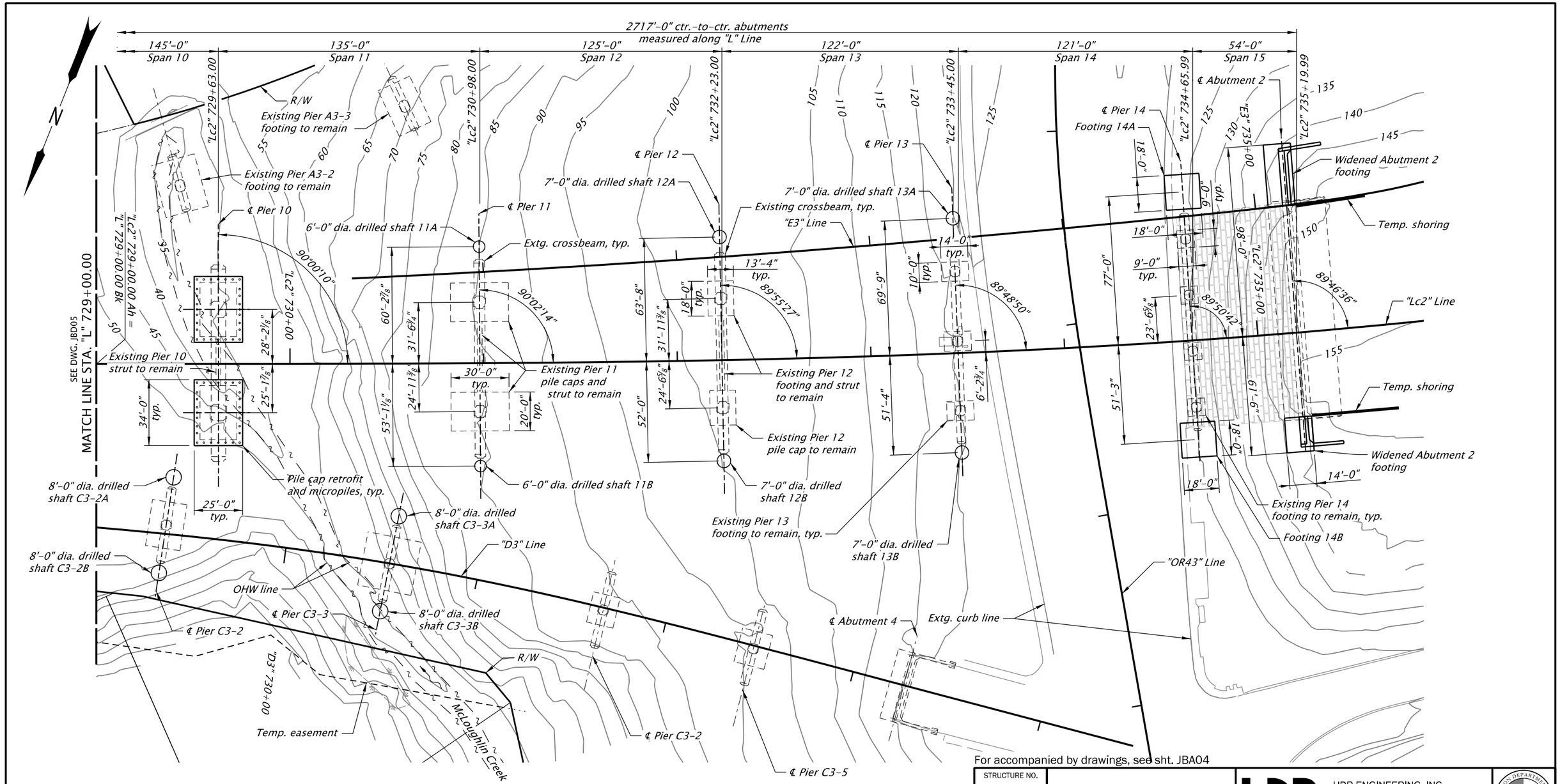

For accompanied by drawings, see sht. JBA04

FOUNDATION PLAN

Scale: 1"=50'

Note:
Provide all shoring as required for construction. The locations and limits shown are only to alert the Contractor that shoring may be necessary to construct the work. The Contractor shall determine the actual locations and limits of all shoring required.

SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

STRUCTURE NO.	09403
BDS DWG NO.	
CALC. BOOK	
HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
DATE	03/21

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PORTLAND, OR 97204-1134
503.423.3700

WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

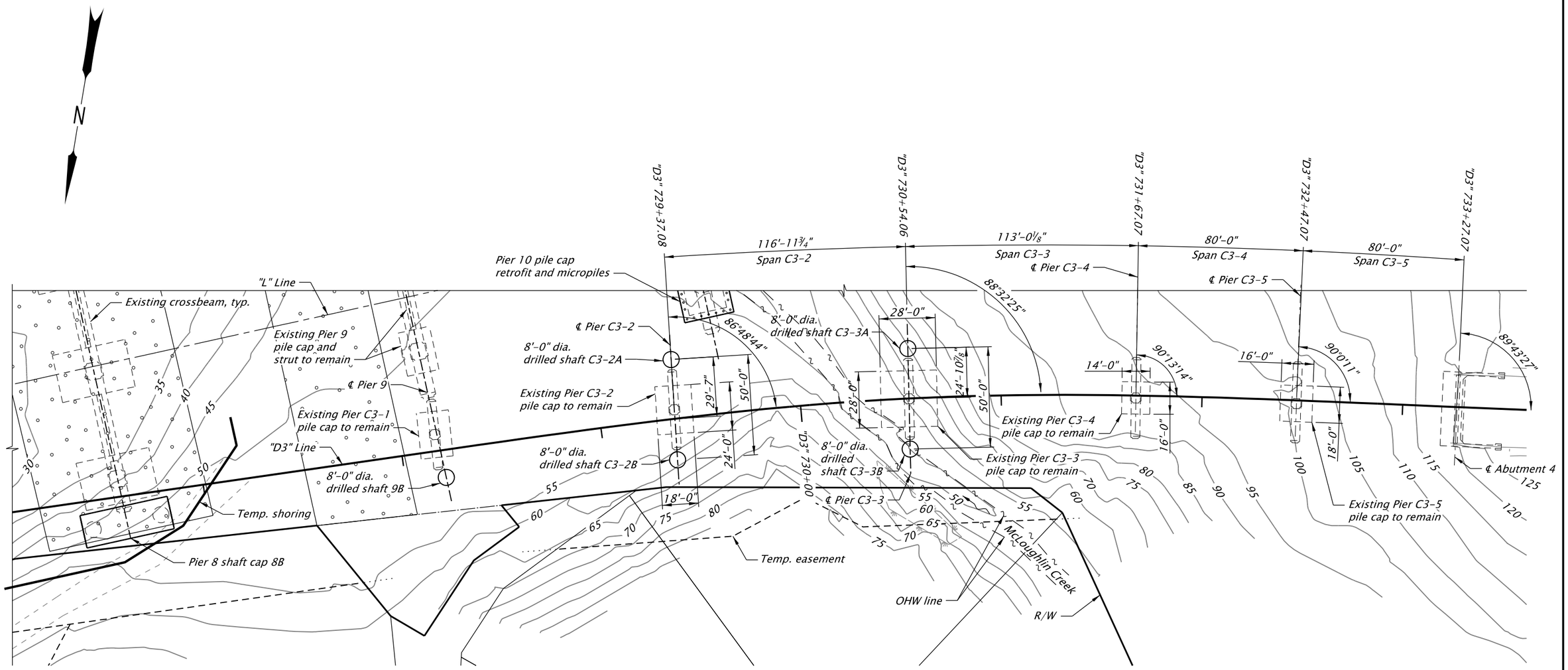
I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Mikal Mitchell
Drafter: Heather Gonsior
Reviewer: Jeff Olson
Checker: Quincy Engineering

FOUNDATION PLAN - 4

SHEET NO. JBD07

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST



FOUNDATION PLAN

Scale: 1"=50'

For accompanied by drawings, see sht. JBA04

Note:
Provide all shoring as required for construction. The locations and limits shown are only to alert the Contractor that shoring may be necessary to construct the work. The Contractor shall determine the actual locations and limits of all shoring required.

Legend:

Ground improvements

SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

STRUCTURE NO.	09403
BDS DWG NO.	
CALC. BOOK	
HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
DATE	03/21

ADVANCE COPY
SUBJECT TO CHANGE

HDR ENGINEERING, INC
1050 SW 6TH AVENUE, SUITE 1800
PORTLAND, OR 97204-1134
503.423.3700

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

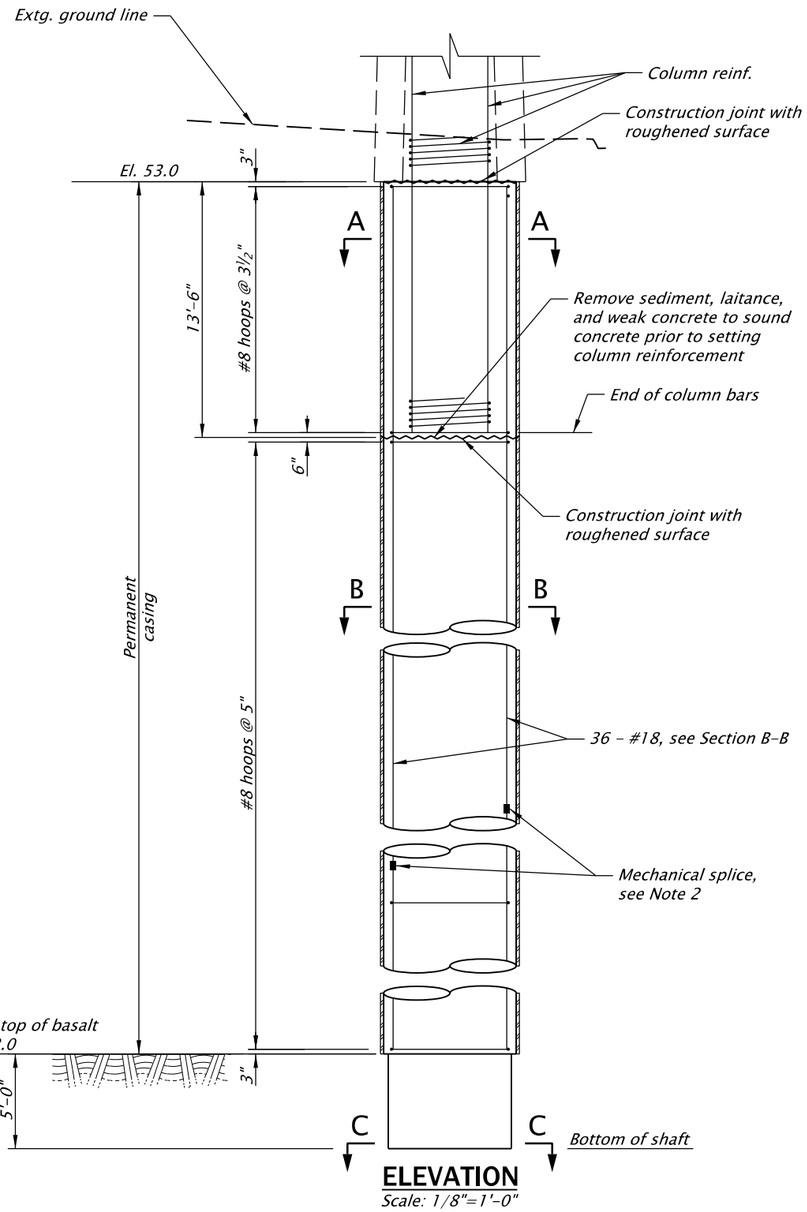
I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Mikal Mitchell
Reviewer: Jeff Olson
Drafter: Heather Gonsior
Checker: Quincy Engineering

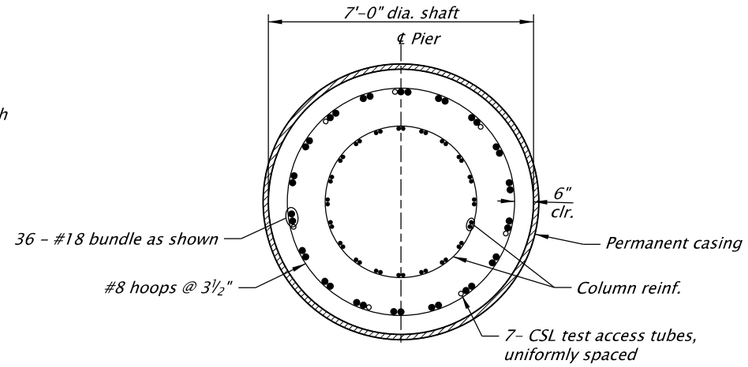
FOUNDATION PLAN - RAMP C3

SHEET NO. JBD09

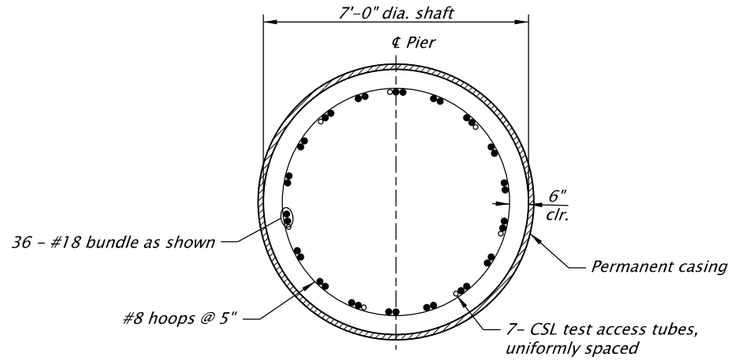
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST



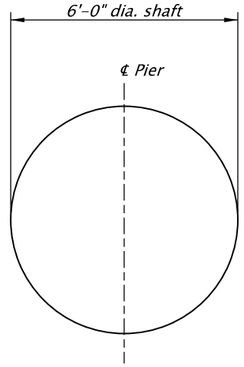
ELEVATION
Scale: 1/8"=1'-0"



SECTION A-A
Scale: ¼"=1'-0"



SECTION B-B
Scale: ¼"=1'-0"



SECTION C-C
Scale: ¼"=1'-0"

Note:

1. *Top of basalt elevation may vary. See Special Provisions to accommodate variation. Tip elevation may vary to construct required socket into basalt.*
2. *Do not splice more than 50% of reinf. bar at any one location. Stagger splices a minimum of 3'-0".*
3. *For #8 hoops, see sheet JBD30 for Welded Lap Splice Detail.*

Provide all #9 or larger reinforcing steel according to ASTM Specification A706, Grade 80.

For accompanied by drawings, see sht. JBA04

STRUCTURE NO.	09403
BDS DWG NO.	
CALC. BOOK	
HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
DATE	03/21

SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

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503.423.3700

WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

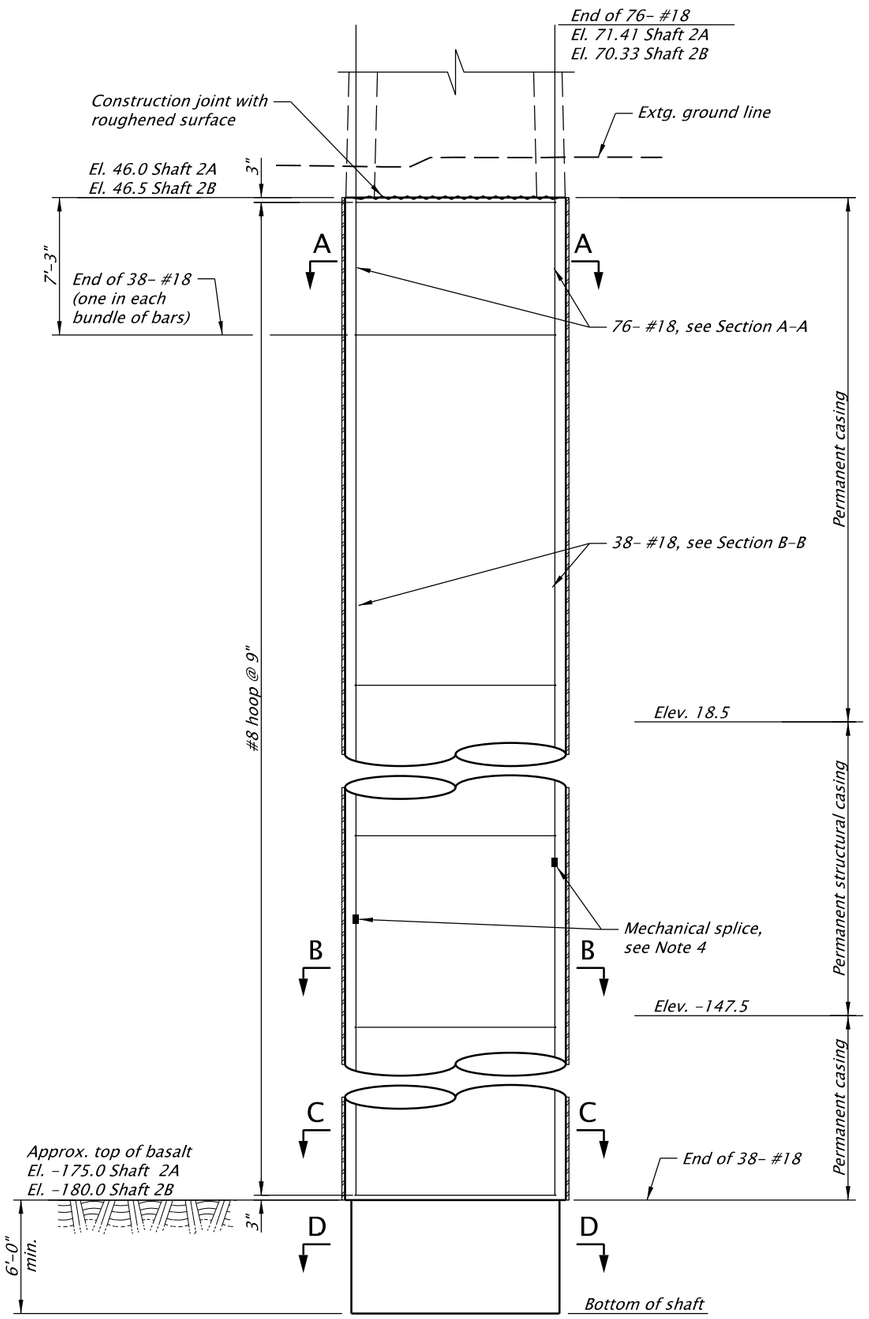
I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Kurt Schweitzer | Reviewer: Jeff Olson
Drafter: Jade Wang | Checker: Quincy Engineering

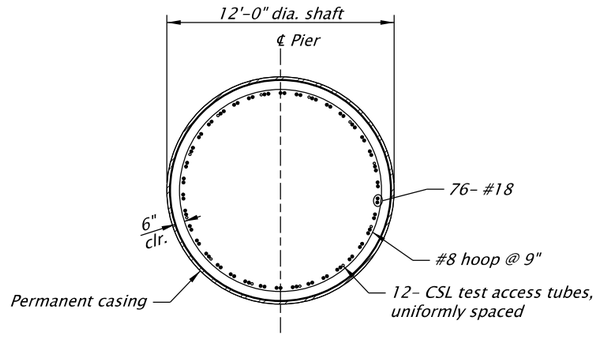
PIER 1 SHAFT

SHEET NO. JBD12

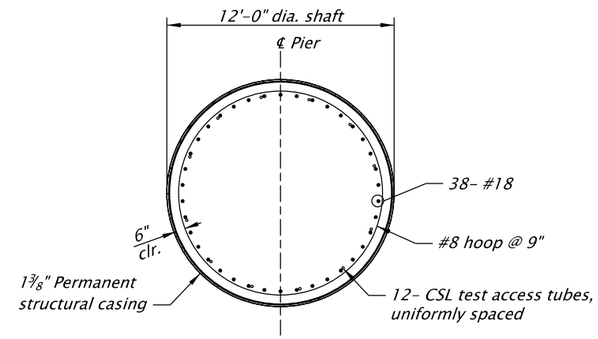
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST



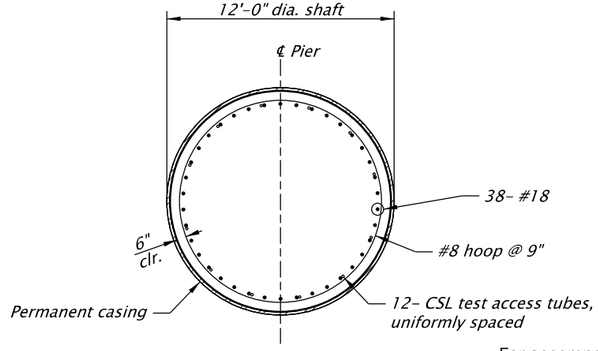
ELEVATION
Scale: 1/8"=1'-0"



SECTION A-A
Scale: 1/8"=1'-0"



SECTION B-B
Scale: 1/8"=1'-0"

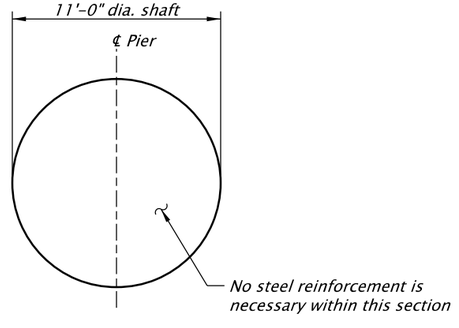


SECTION C-C
Scale: 1/8"=1'-0"

Notes:

1. Top of bedrock elevation may vary. See special provisions to accommodate variation. Tip elevation may vary to construct required socket into bedrock.
2. See Special Provisions for permanent structural casing requirements. Splicing of permanent structural casing segments requires complete penetration welds.
3. Where the min. thickness of permanent structural casing is shown, it is specified to satisfy structural design requirements only. The contractor shall increase the casing thickness to provide casing of sufficient strength to resist handling, transportation, and installation stresses and the external stresses of the subsurface materials.
4. Do not splice more than 50% of reinf. bar at any one location. Stagger splices a minimum of 3'-0".
5. For #8 hoops, see sheet JBD30 for Welded Lap Splice Detail.

Provide all #9 or larger reinforcing steel according to ASTM Specification A706, Grade 80.



SECTION D-D
Scale: 1/8"=1'-0"

For accompanied by drawings, see sht. JBA04

STRUCTURE NO.	09403
BDS DWG NO.	
CALC. BOOK	
HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
DATE	03/21

SCALE WARNING
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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

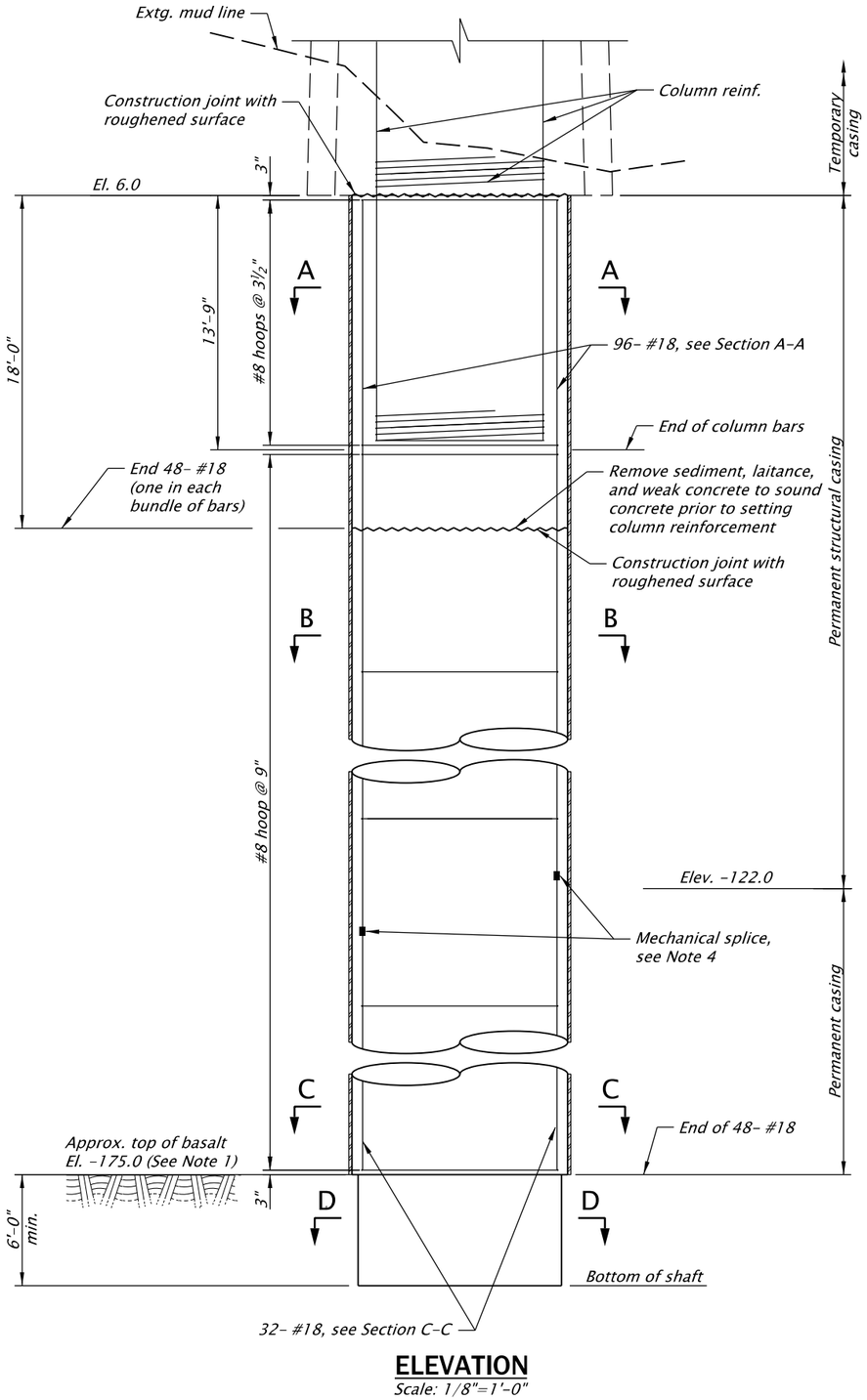
I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Jedediah Bingle | Reviewer: Jeff Olson
Drafter: Jade Wang | Checker: Quincy Engineering

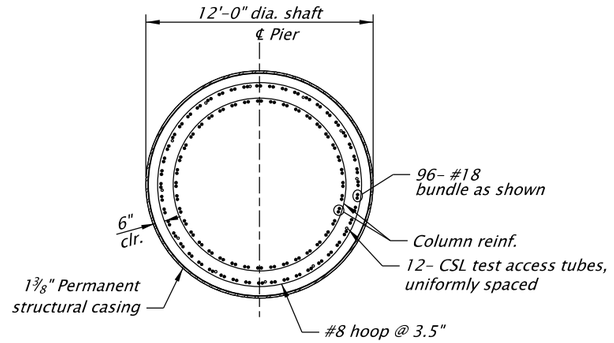
PIER 2 SHAFTS

SHEET NO. JBD13

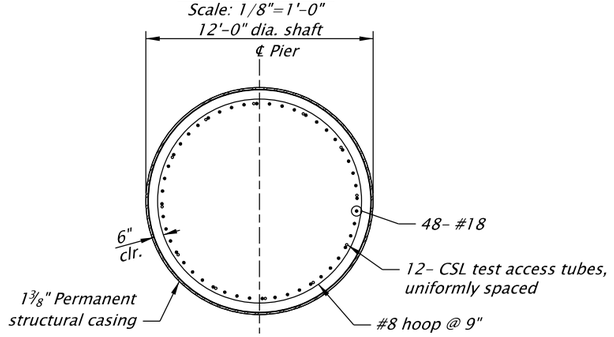
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST



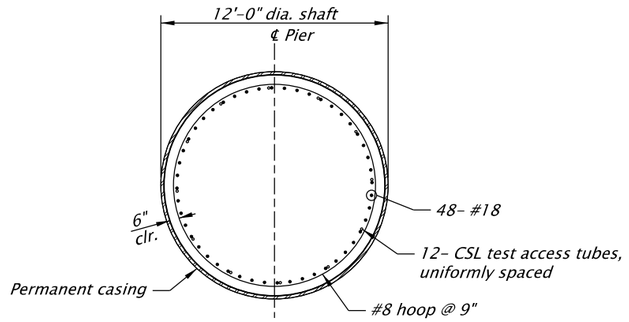
ELEVATION
Scale: 1/8"=1'-0"



SECTION A-A
Scale: 1/8"=1'-0"



SECTION B-B
Scale: 1/8"=1'-0"

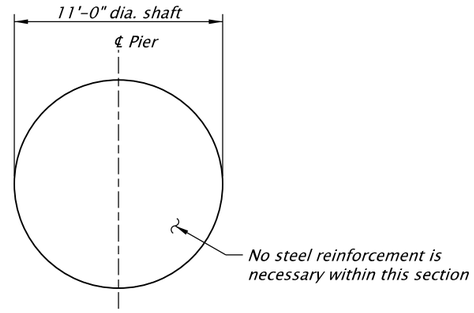


SECTION C-C
Scale: 1/8"=1'-0"

Notes:

1. Top of bedrock elevation may vary. See special provisions to accommodate variation. Tip elevation may vary to construct required socket into bedrock.
2. See Special Provisions for permanent structural casing requirements. Splicing of permanent structural casing segments requires complete penetration welds.
3. Where the min. thickness of permanent structural casing is shown, it is specified to satisfy structural design requirements only. The contractor shall increase the casing thickness to provide casing of sufficient strength to resist handling, transportation, and installation stresses and the external stresses of the subsurface materials.
4. Do not splice more than 50% of reinf. bar at any one location. Stagger splices a minimum of 3'-0".
5. For #8 hoops, see sheet JBD30 for Welded Lap Splice Detail.

Provide all #9 or larger reinforcing steel according to ASTM Specification A706, Grade 80.



SECTION D-D
Scale: 1/8"=1'-0"

For accompanied by drawings, see sht. JBA04

STRUCTURE NO.	09403
BDS DWG NO.	
CALC. BOOK	
HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
DATE	03/21

SCALE WARNING
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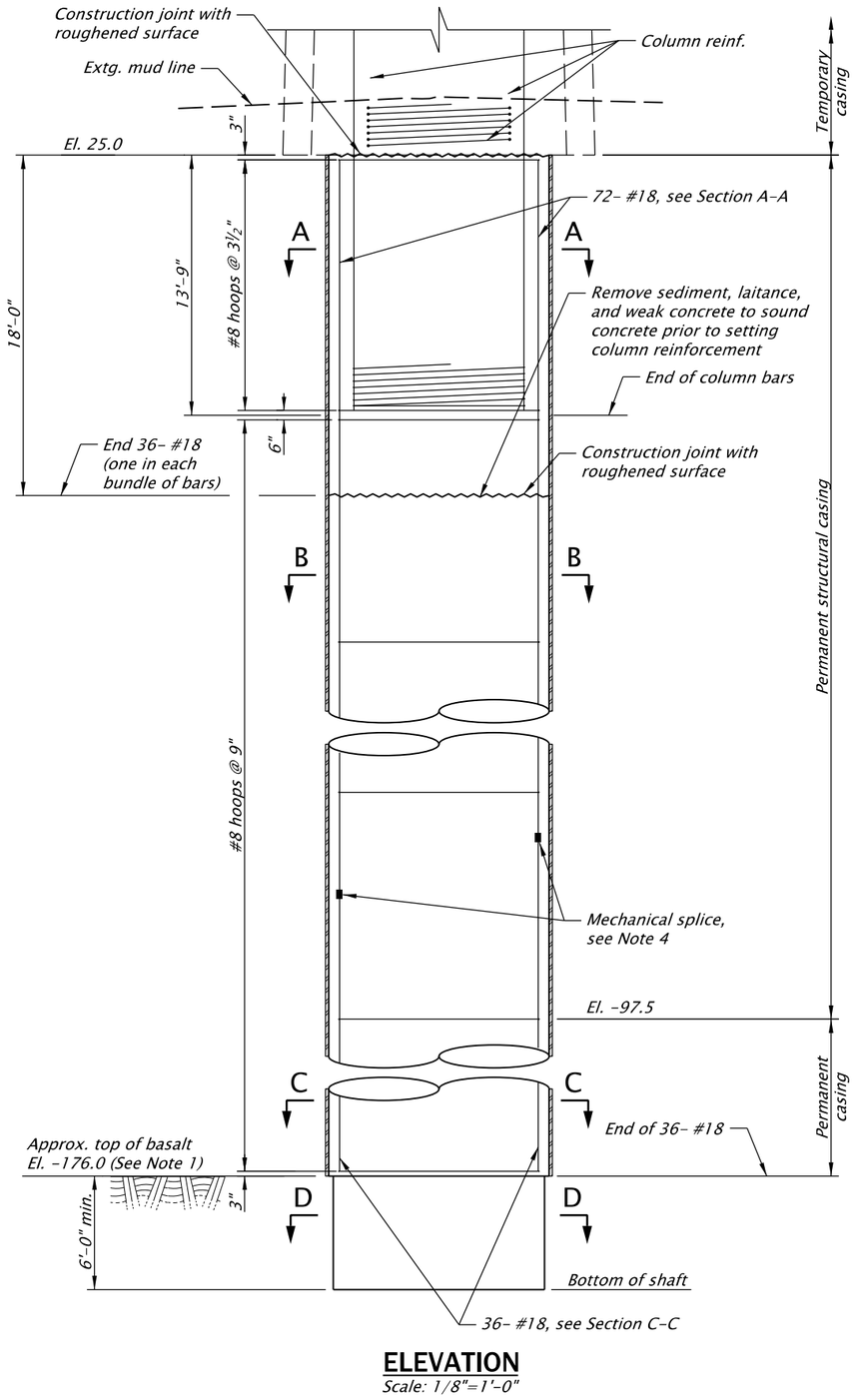
WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

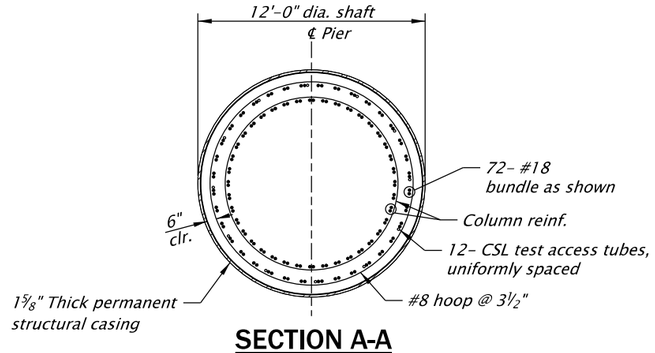
Designer: Jedediah Bingle	Reviewer: Jeff Olson
Drafter: Jade Wang	Checker: Quincy Engineering

PIER 3 SHAFT 3A — SHEET NO. JBD14

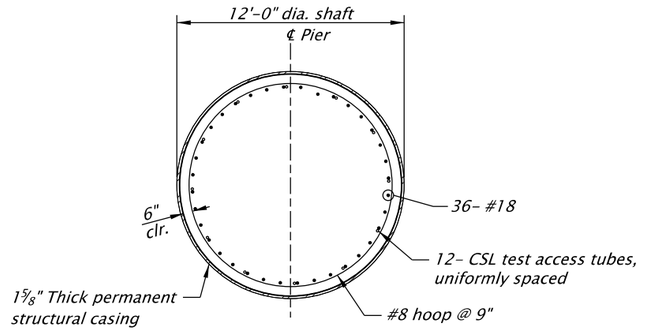
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST



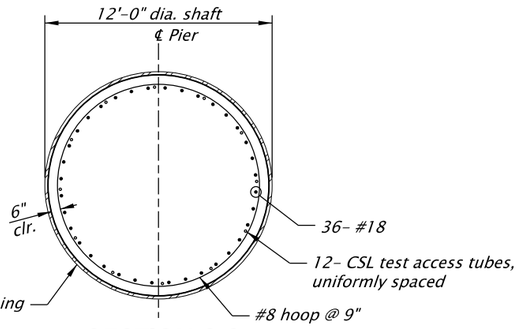
ELEVATION
Scale: 1/8"=1'-0"



SECTION A-A
Scale: 1/8"=1'-0"



SECTION B-B
Scale: 1/8"=1'-0"

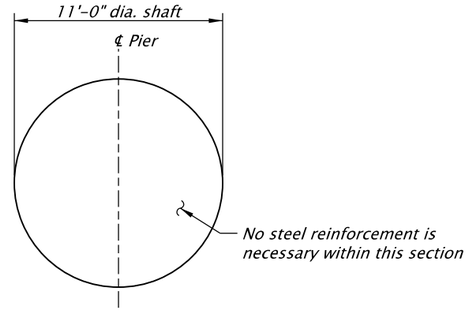


SECTION C-C
Scale: 1/8"=1'-0"

Notes:

1. Top of bedrock elevation may vary. See special provisions to accommodate variation. Tip elevation may vary to construct required socket into bedrock.
2. See Special Provisions for permanent structural casing requirements. Splicing of permanent structural casing segments requires complete penetration welds.
3. Where the min. thickness of permanent structural casing is shown, it is specified to satisfy structural design requirements only. The contractor shall increase the casing thickness to provide casing of sufficient strength to resist handling, transportation, and installation stresses and the external stresses of the subsurface materials.
4. Do not splice more than one-third of reinf. bar at any one location. Stagger splices a minimum of 3'-0".
5. For #8 hoops, see sheet JBD30 for Welded Lap Splice Detail.

Provide all #9 or larger reinforcing steel according to ASTM Specification A706, Grade 80.



SECTION D-D
Scale: 1/8"=1'-0"

For accompanied by drawings, see sht. JBA04

STRUCTURE NO.	09403
BDS DWG NO.	
CALC. BOOK	
HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
DATE	03/21

SCALE WARNING
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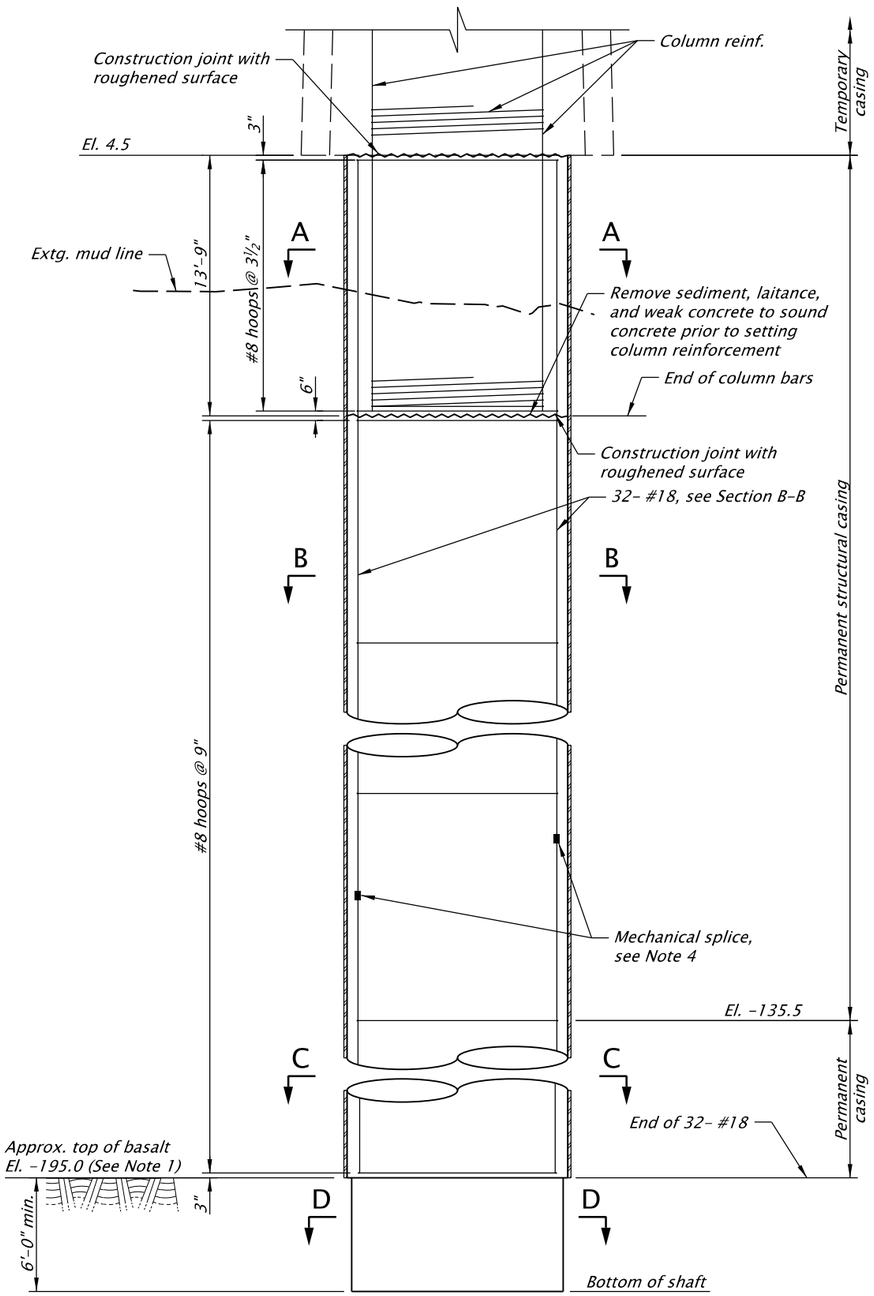
WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Jedediah Bingle | Reviewer: Jeff Olson
Drafter: Jade Wang | Checker: Quincy Engineering

PIER 3 SHAFT 3B | SHEET NO. JBD15

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST



ELEVATION
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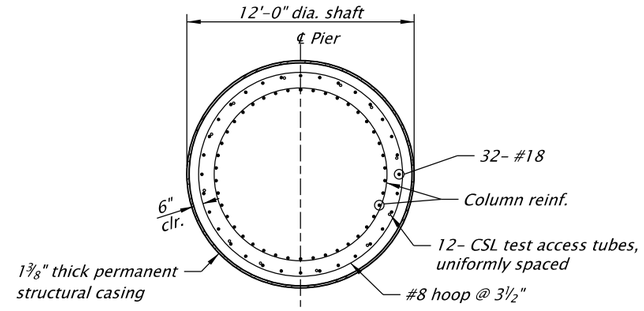
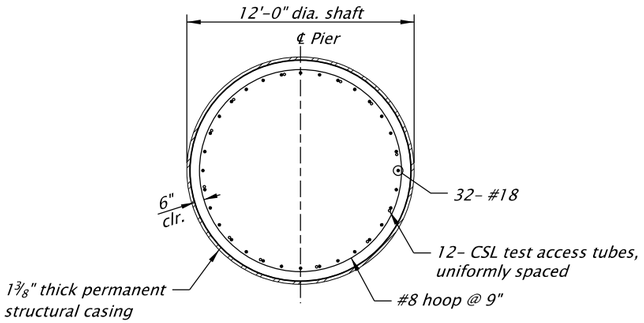
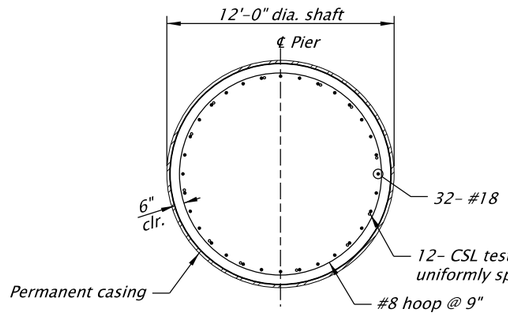


SECTION A-A
Scale: 1/8"=1'-0"



SECTION B-B
Scale: 1/8"=1'-0"

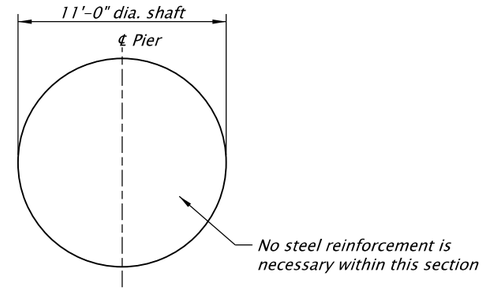


SECTION C-C
Scale: 1/8"=1'-0"

Notes:

1. *Top of bedrock elevation may vary. See special provisions to accommodate variation. Tip elevation may vary to construct required socket into bedrock.*
2. *See Special Provisions for permanent structural casing requirements.*
   Splicing of permanent structural casing segments requires complete penetration welds.
3. *Where the min. thickness of permanent structural casing is shown, it is specified to satisfy structural design requirements only. The contractor shall increase the casing thickness to provide casing of sufficient strength to resist handling, transportation, and installation stresses and the external stresses of the subsurface materials.*
4. *Do not splice more than one-third of reinf. bar at any one location. Stagger splices a minimum of 3'-0".*
5. *For #8 hoops, see sheet JBD30 for Welded Lap Splice Detail.*

Provide all #9 or larger reinforcing steel according to ASTM Specification A706, Grade 80.



SECTION D-D
Scale: 1/8"=1'-0"

For accompanied by drawings, see sht. JBA04

STRUCTURE NO.	09403
BDS DWG NO.	
CALC. BOOK	
HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
DATE	03/21

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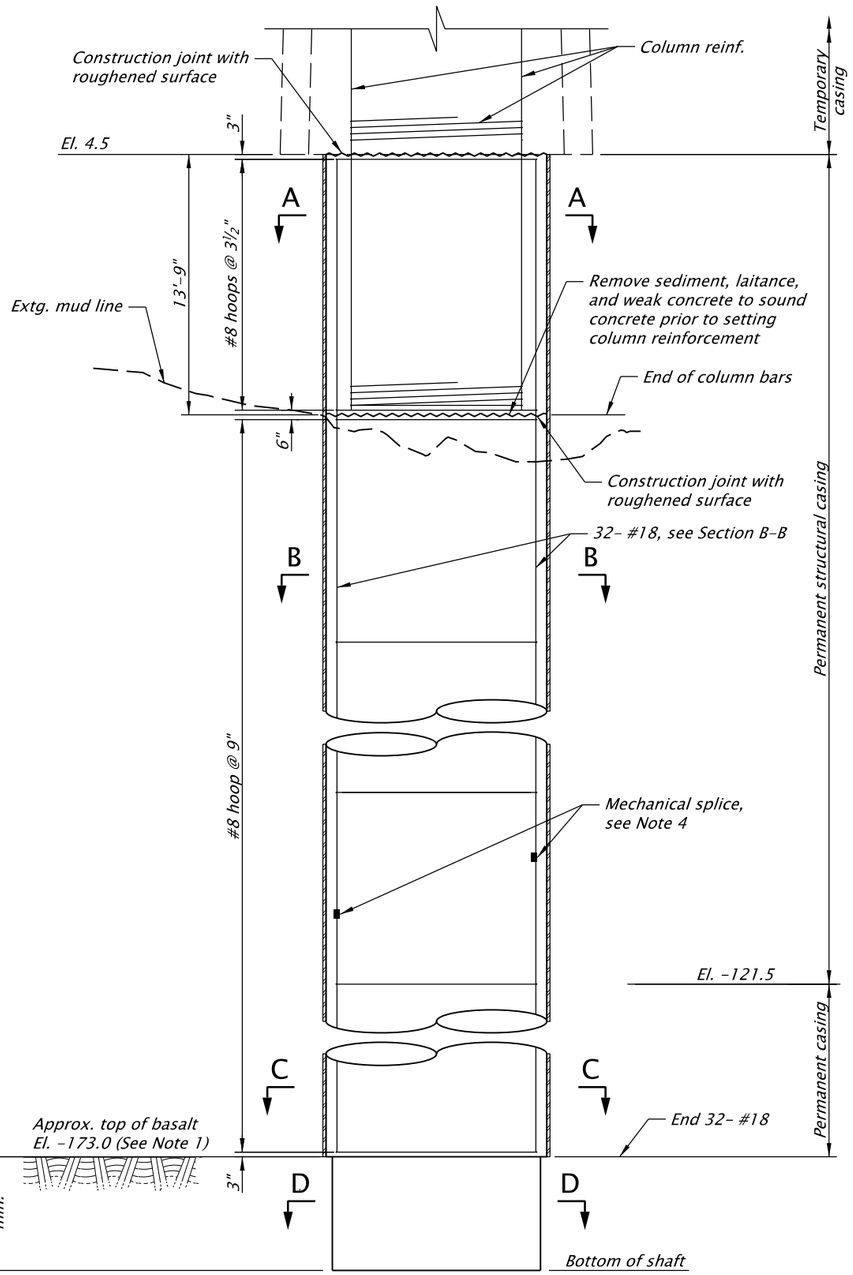
WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

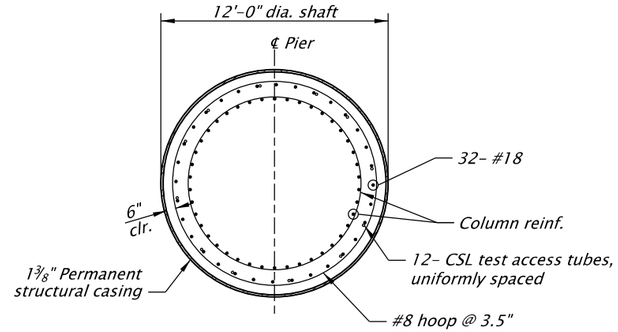
Designer: Jedediah Bingle | Reviewer: Jeff Olson
Drafter: Jade Wang | Checker: Quincy Engineering

PIER 4 SHAFT 4A | SHEET NO. JBD16

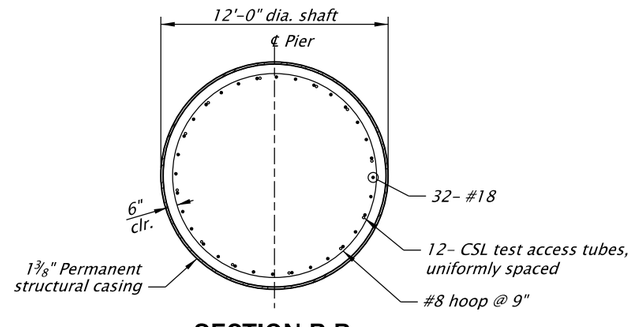
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST



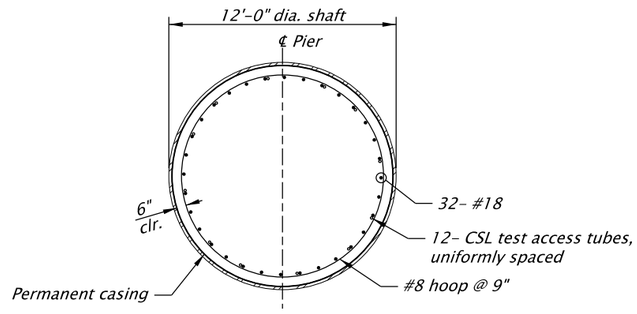
ELEVATION
Scale: 1/8"=1'-0"



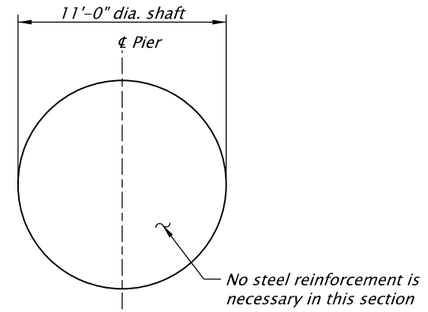
SECTION A-A
Scale: 1/8"=1'-0"



SECTION B-B
Scale: 1/8"=1'-0"



SECTION C-C
Scale: 1/8"=1'-0"



SECTION D-D
Scale: 1/8"=1'-0"

Notes:

1. Top of bedrock elevation may vary. See special provisions to accommodate variation. Tip elevation may vary to construct required socket into bedrock.
2. See Special Provisions for permanent structural casing requirements. Splicing of permanent structural casing segments requires complete penetration welds.
3. Where the min. thickness of permanent structural casing is shown, it is specified to satisfy structural design requirements only. The contractor shall increase the casing thickness to provide casing of sufficient strength to resist handling, transportation, and installation stresses and the external stresses of the subsurface materials.
4. Do not splice more than 50% of reinf. bar at any one location. Stagger splices a minimum of 3'-0".
5. For #8 hoops, see sheet JBD30 for Welded Lap Splice Detail.

Provide all #9 or larger reinforcing steel according to ASTM Specification A706, Grade 80.

For accompanied by drawings, see sht. JBA04

STRUCTURE NO.	09403
BDS DWG NO.	
CALC. BOOK	
HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
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PORTLAND, OR 97204-1134
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OREGON DEPARTMENT OF TRANSPORTATION

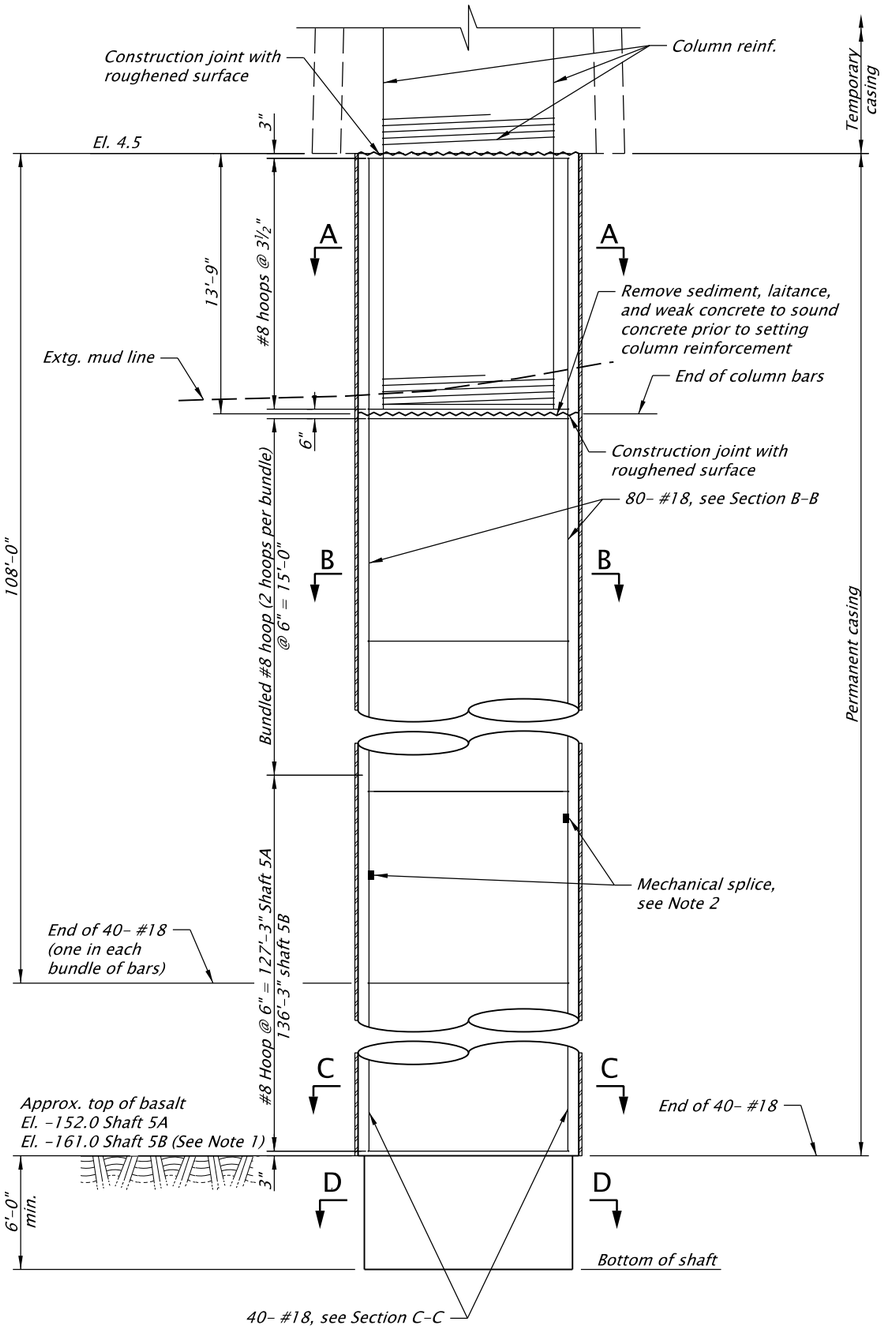
WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

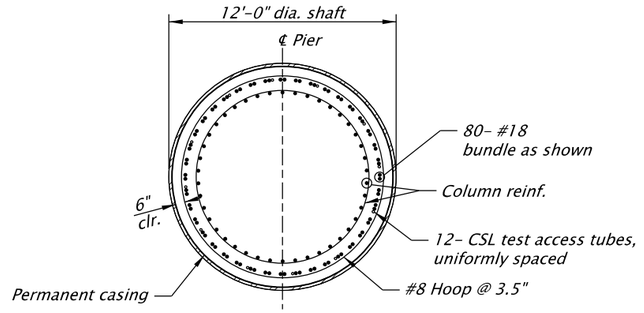
Designer: Jedediah Bingle
Drafter: Jade Wang
Reviewer: Jeff Olson
Checker: Quincy Engineering

PIER 4 SHAFT 4B

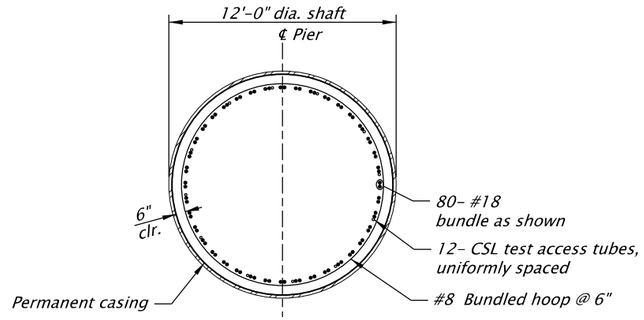
SHEET NO. JBD17



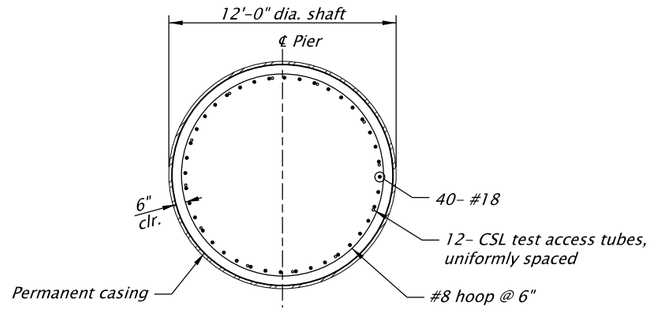
ELEVATION
Scale: 1/8"=1'-0"



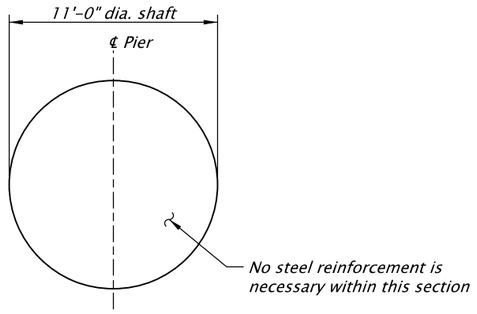
SECTION A-A
Scale: 1/8"=1'-0"



SECTION B-B
Scale: 1/8"=1'-0"



SECTION C-C
Scale: 1/8"=1'-0"



SECTION D-D
Scale: 1/8"=1'-0"

Notes:

1. Top of bedrock elevation may vary. See special provisions to accommodate variation. Tip elevation may vary to construct required socket into bedrock.
2. Do not splice more than 50% of reinf. bar at any one location. Stagger splices a minimum of 3'-0".
3. For #8 hoops, see sheet JBD30 for Welded Lap Splice Detail.

Provide all #9 or larger reinforcing steel according to ASTM Specification A706, Grade 80.

For accompanied by drawings, see sht. JBA04

STRUCTURE NO.	09403
BDS DWG NO.	
CALC. BOOK	
HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
DATE	03/21

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HDR ENGINEERING, INC
1050 SW 6TH AVENUE, SUITE 1800
PORTLAND, OR 97204-1134
503.423.3700

WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

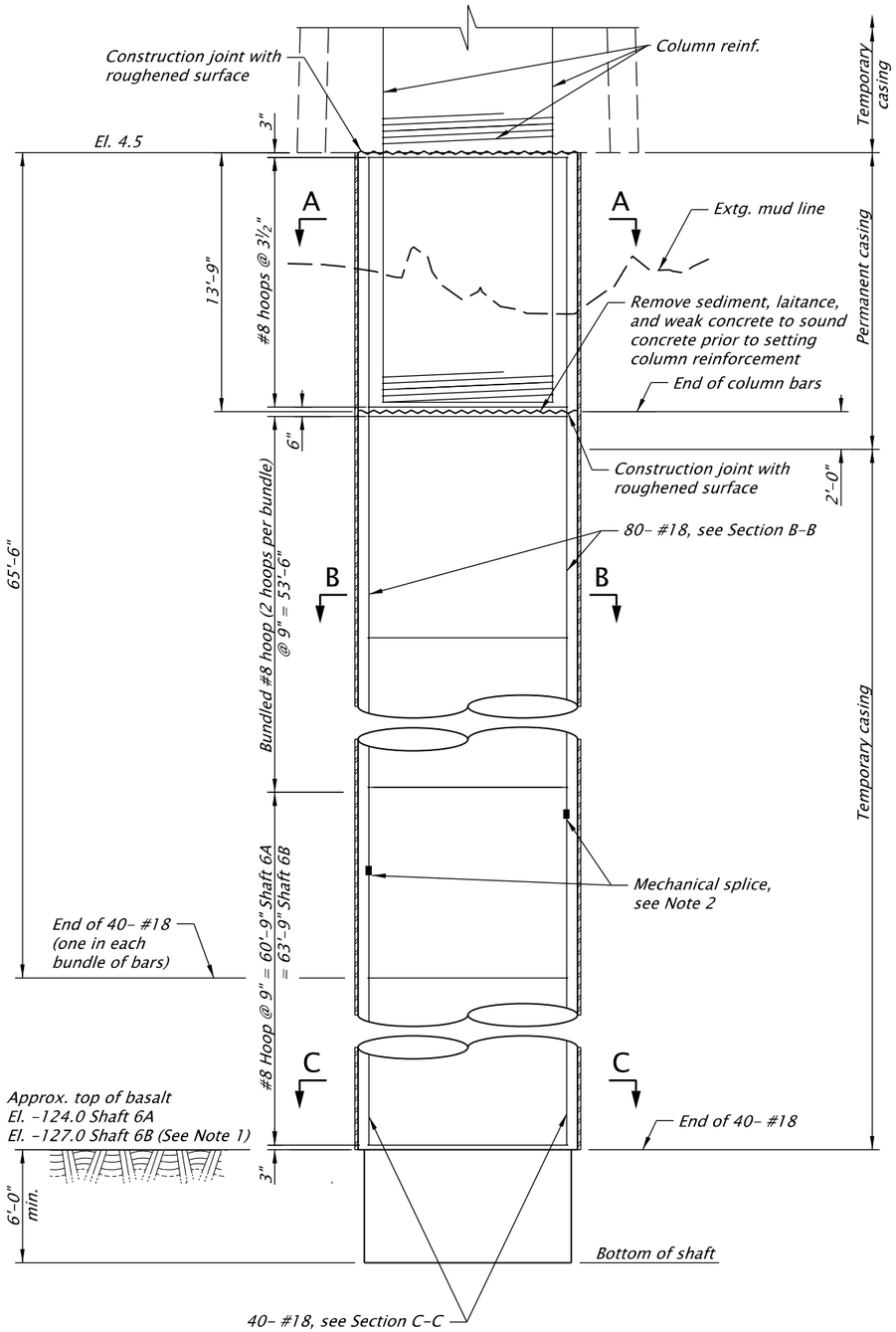
I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Jedediah Bingle
Drafter: Jade Wang
Reviewer: Jeff Olson
Checker: Quincy Engineering

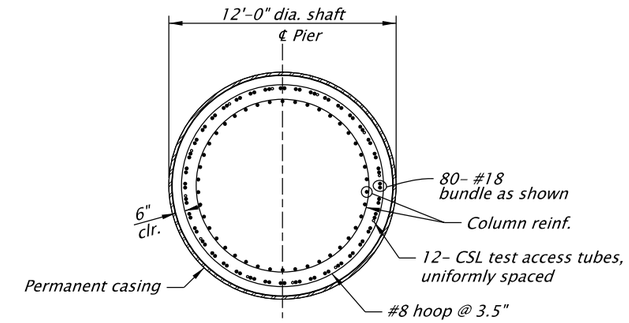
PIER 5 SHAFTS

SHEET NO. JBD18

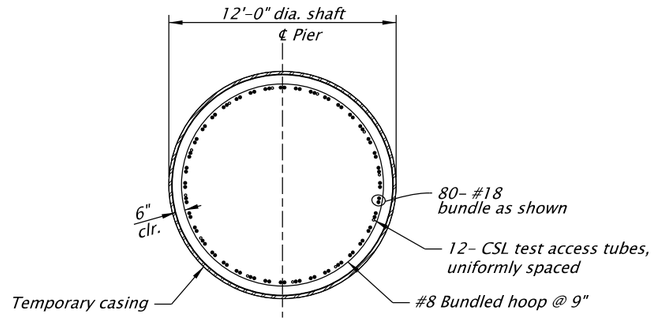
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST



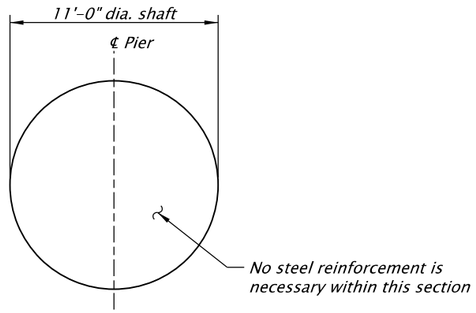
ELEVATION
Scale: 1/8"=1'-0"



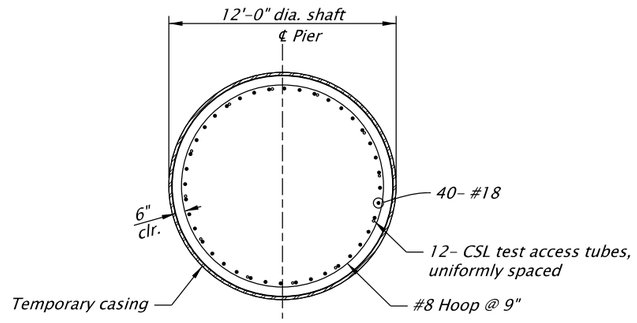
SECTION A-A
Scale: 1/8"=1'-0"



SECTION B-B
Scale: 1/8"=1'-0"



SECTION D-D
Scale: 1/8"=1'-0"



SECTION C-C
Scale: 1/8"=1'-0"

Notes:

1. *Top of bedrock elevation may vary. See special provisions to accommodate variation. Tip elevation may vary to construct required socket into bedrock.*
2. *Do not splice more than 50% of reinf. bar at any one location. Stagger splices a minimum of 3'-0".*
3. *For #8 hoops, see sheet JBD30 for Welded Lap Splice Detail.*

Provide all #9 or larger reinforcing steel according to ASTM Specification A706, Grade 80.

For accompanied by drawings, see sht. JBA04

STRUCTURE NO.	09403
BDS DWG NO.	
CALC. BOOK	
HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
DATE	03/21

SCALE WARNING
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PORTLAND, OR 97204-1134
503.423.3700

WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

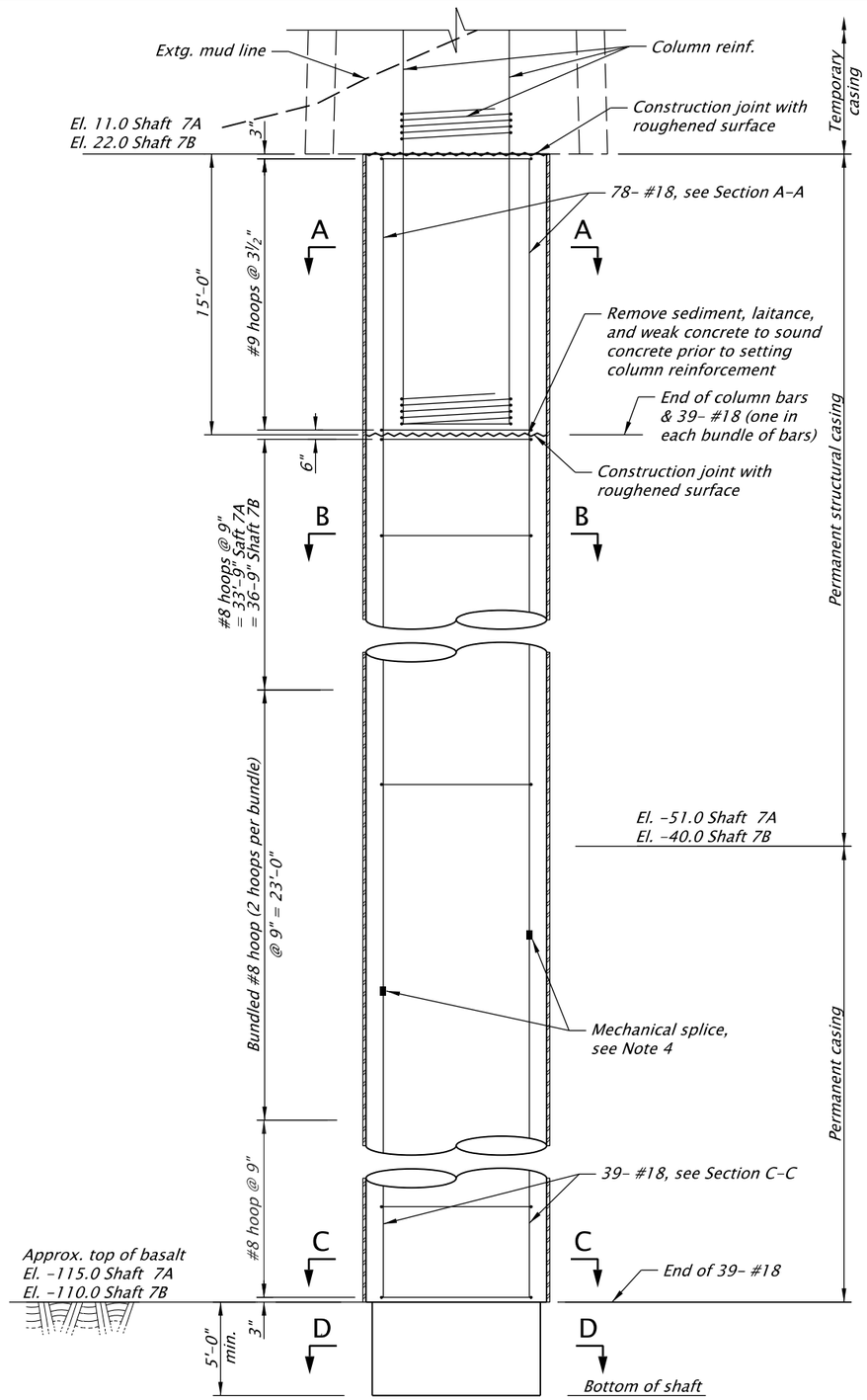
I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Jedediah Bingle
Drafter: Jade Wang
Reviewer: Jeff Olson
Checker: Quincy Engineering

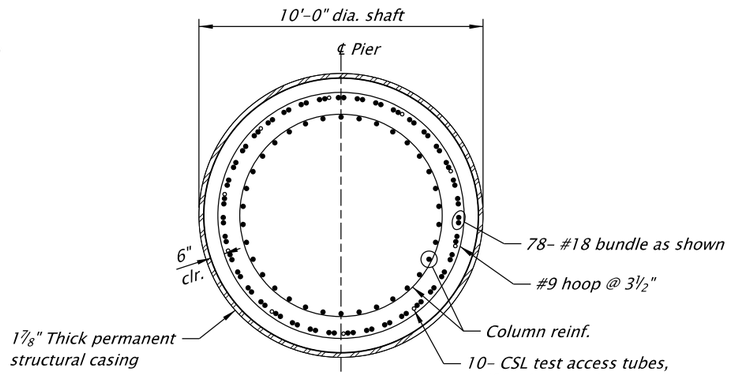
PIER 6 SHAFTS

SHEET NO. JBD19

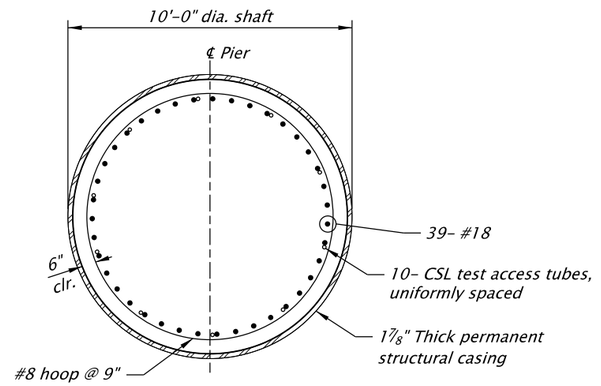
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST



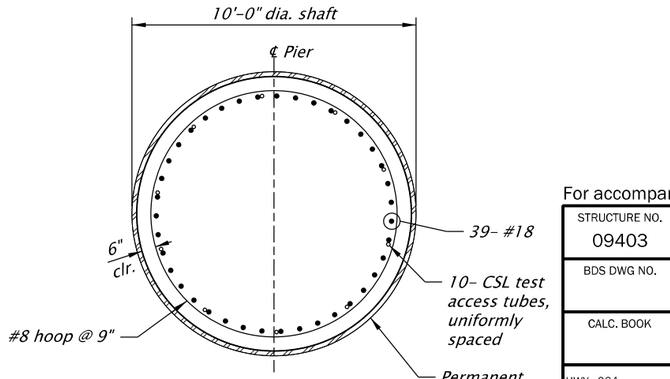
ELEVATION
Scale: 1/8"=1'-0"



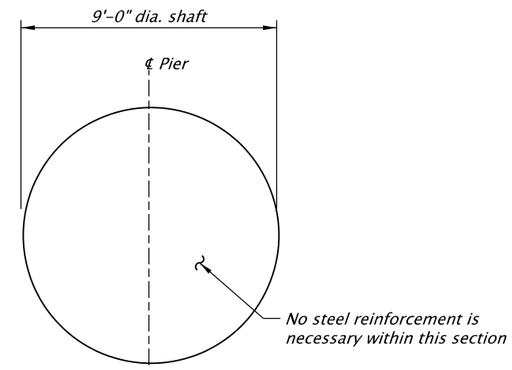
SECTION A-A
Scale: 3/16" = 1'-0"



SECTION B-B
Scale: 3/16" = 1'-0"



SECTION C-C
Scale: 3/16" = 1'-0"



SECTION D-D
Scale: 3/16" = 1'-0"

Notes:

1. Top of bedrock elevation may vary. See special provisions to accommodate variation. Tip elevation may vary to construct required socket into bedrock.
2. See Special Provisions for permanent structural casing requirements. Splicing of permanent structural casing segments requires complete penetration welds.
3. Where the min. thickness of permanent structural casing is shown, it is specified to satisfy structural design requirements only. The contractor shall increase the casing thickness to provide casing of sufficient strength to resist handling, transportation, and installation stresses and the external stresses of the subsurface materials.
4. Do not splice more than one-third of reinf. bar at any one location. Stagger splices a minimum of 3'-0".
5. For #8 hoops, see sheet JBD30 for Welded Lap Splice Detail.

Provide all #9 or larger reinforcing steel according to ASTM Specification A706, Grade 80.

For accompanied by drawings, see sht. JBA04

STRUCTURE NO.	09403
BDS DWG NO.	
CALC. BOOK	
HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
DATE	03/21

SCALE WARNING
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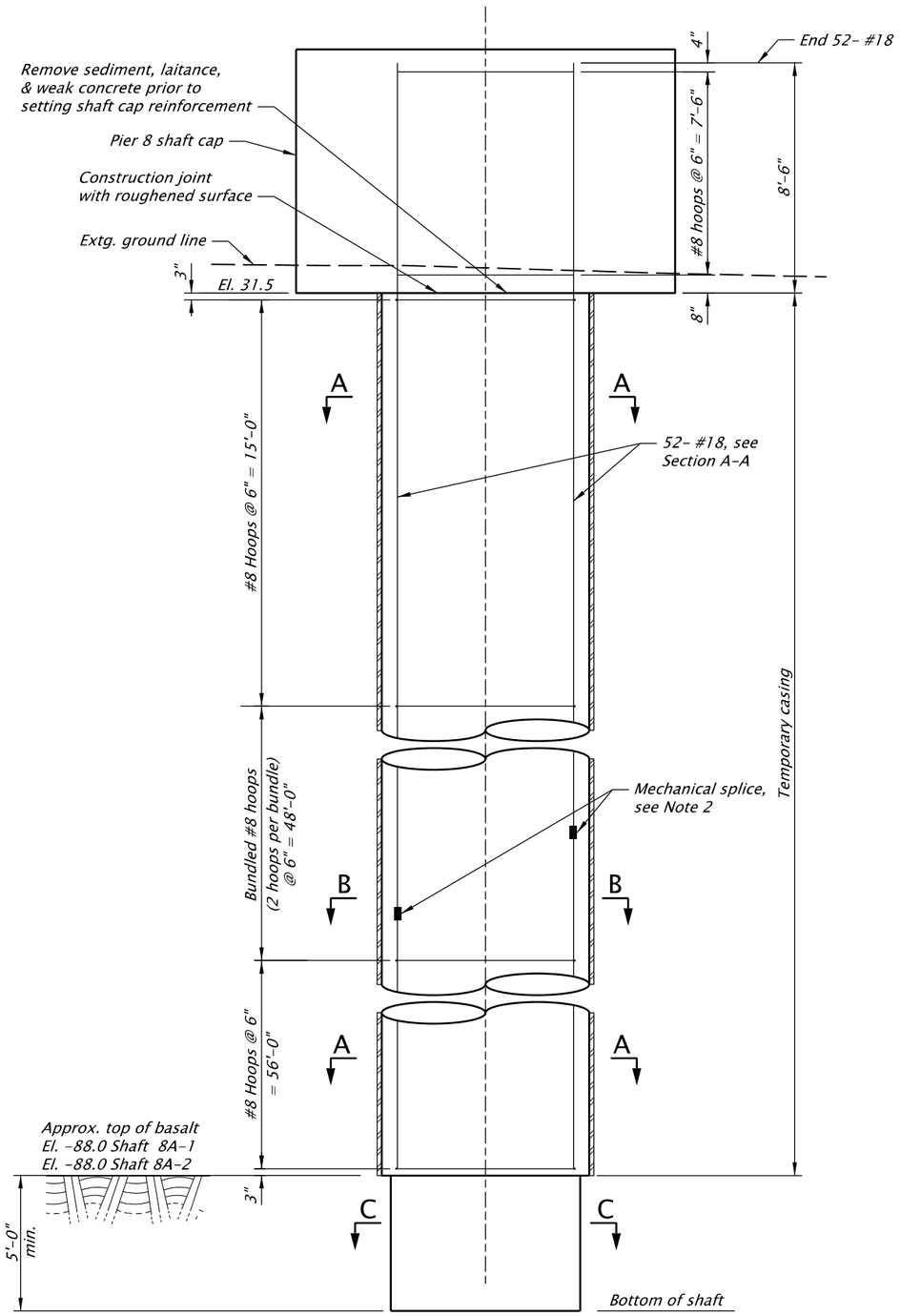
WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Jedediah Bingle | Reviewer: Jeff Olson
Drafter: Jade Wang | Checker: Quincy Engineering

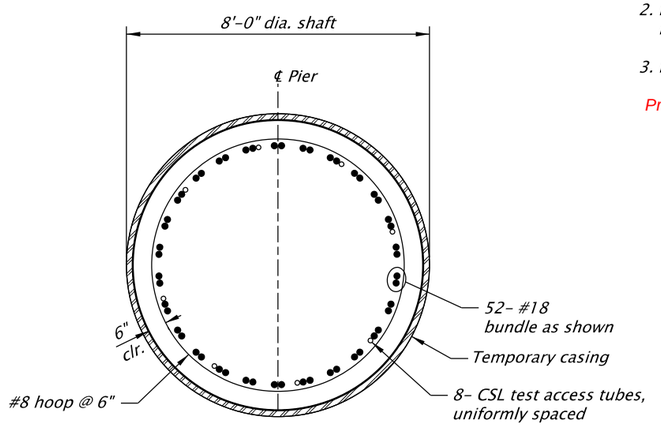
PIER 7 SHAFTS | SHEET NO. JBD20



ELEVATION

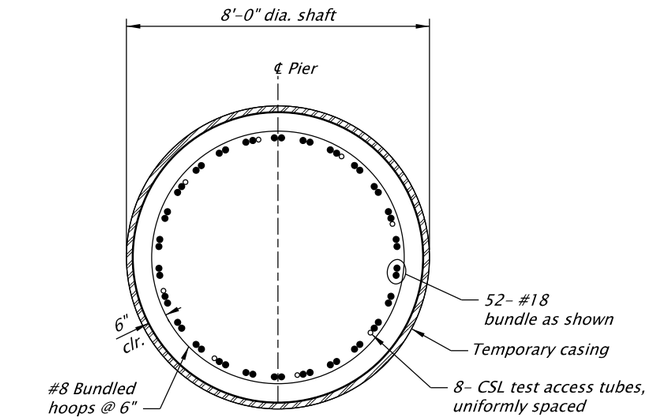
Scale: 3/16"=1'-0"

Shaft 8A-1 shown. Shaft 8A-2 is similar.



SECTION A-A

Scale: 1/4"=1'-0"



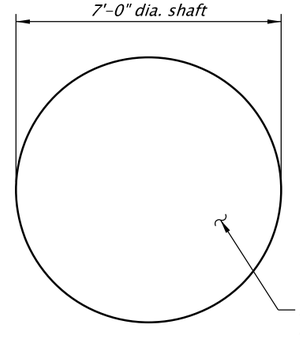
SECTION B-B

Scale: 1/4"=1'-0"

Notes:

1. *Top of bedrock elevation may vary. See special provisions to accommodate variation. Tip elevation may vary to construct required socket into bedrock.*
2. *Do not splice more than 50% of reinf. bar at any one location. Stagger splices a minimum of 3'-0".*
3. *For #8 hoops, see sheet JBD30 for Welded Lap Splice Detail.*

Provide all #9 or larger reinforcing steel according to ASTM Specification A706, Grade 80.



SECTION C-C

Scale: 1/4"=1'-0"

For accompanied by drawings, see sht. JBA04

STRUCTURE NO.	09403
BDS DWG NO.	
CALC. BOOK	
HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
DATE	03/21

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503.423.3700

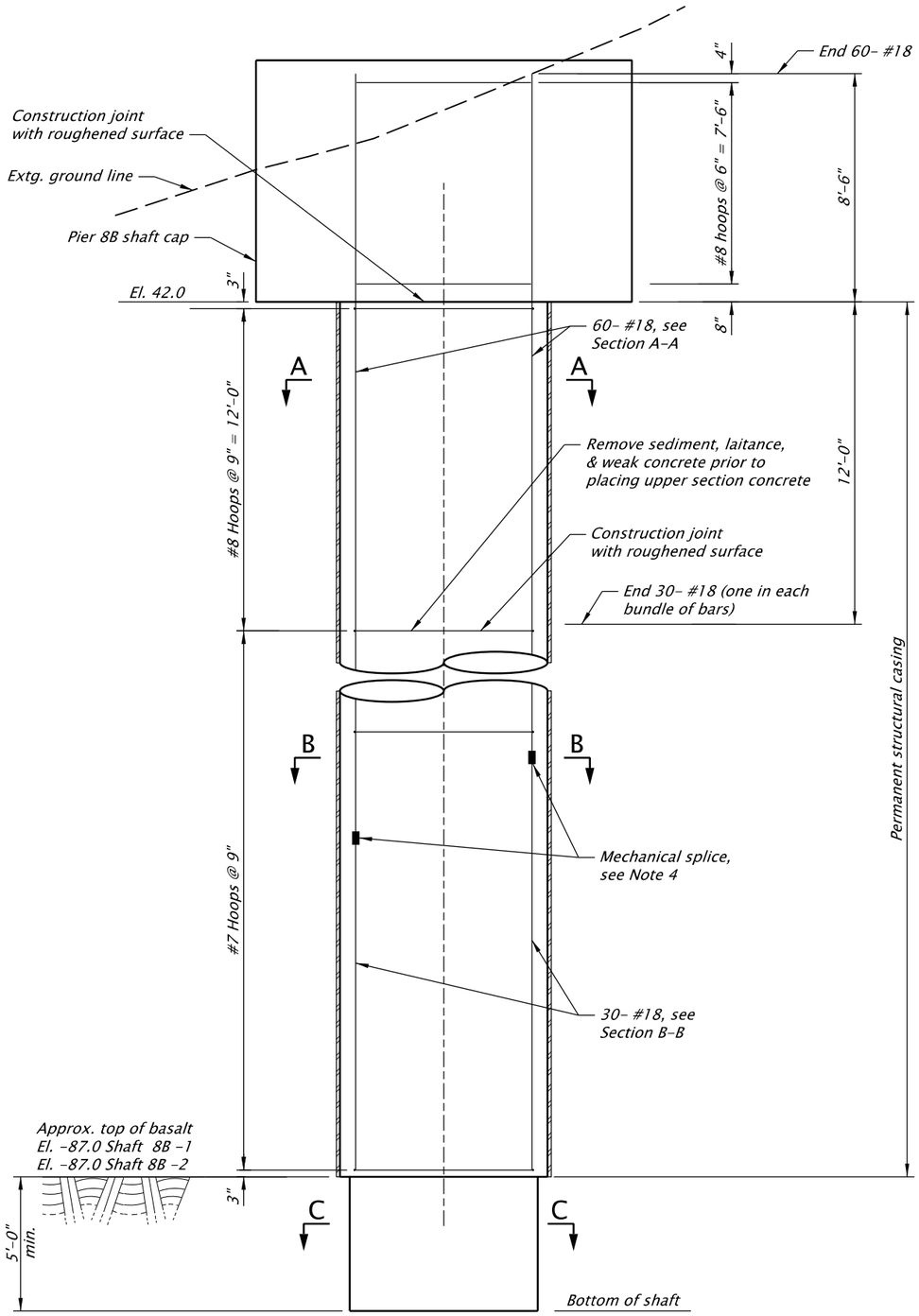
WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

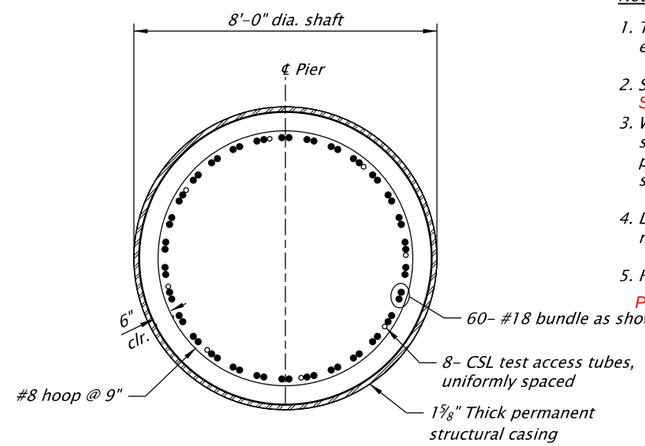
Designer: Jedediah Bingle | Reviewer: Jeff Olson
Drafter: Jade Wang | Checker: Quincy Engineering

PIER 8A SHAFTS

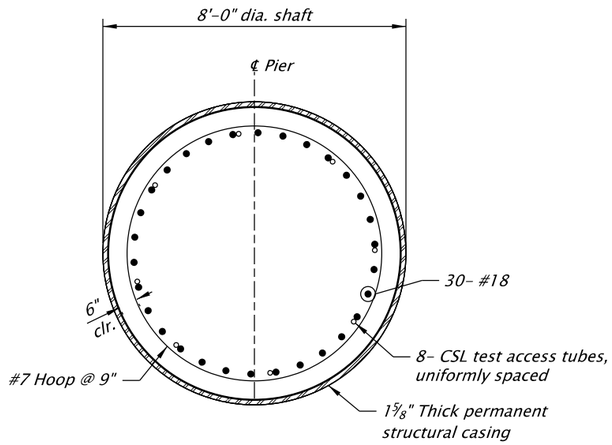
SHEET NO. JBD21



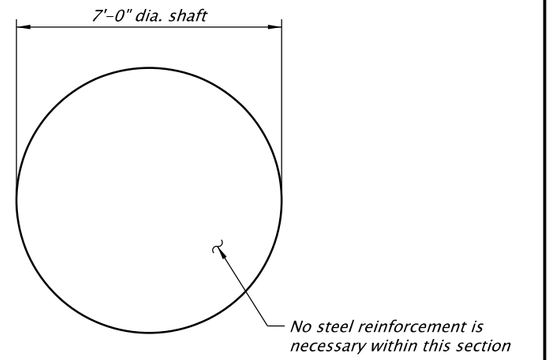
ELEVATION
Scale: 3/16"=1'-0"
Shaft 8B-1 shown. Shaft 8B-2 is similar.



SECTION A-A
Scale: 1/4"=1'-0"



SECTION B-B
Scale: 1/4"=1'-0"



SECTION C-C
Scale: 1/4"=1'-0"

Notes:

1. *Top of bedrock elevation may vary. See special provisions to accommodate variation. Tip elevation may vary to construct required socket into bedrock.*
2. *See Special Provisions for permanent structural casing requirements.* Splicing of permanent structural casing segments requires complete penetration welds.
3. *Where the min. thickness of permanent structural casing is shown, it is specified to satisfy structural design requirements only. The contractor shall increase the casing thickness to provide casing of sufficient strength to resist handling, transportation, and installation stresses and the external stresses of the subsurface materials.*
4. *Do not splice more than 50% of reinf. bar at any one location. Stagger splices a minimum of 3'-0".*
5. *For #8 hoops, see sheet JBD30 for Welded Lap Splice Detail.*

Provide all #9 or larger reinforcing steel according to ASTM Specification A706, Grade 80.

For accompanied by drawings, see sht. JBA04

STRUCTURE NO.	09403
BDS DWG NO.	
CALC. BOOK	
HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
DATE	03/21

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PORTLAND, OR 97204-1134
503.423.3700

OREGON DEPARTMENT OF TRANSPORTATION

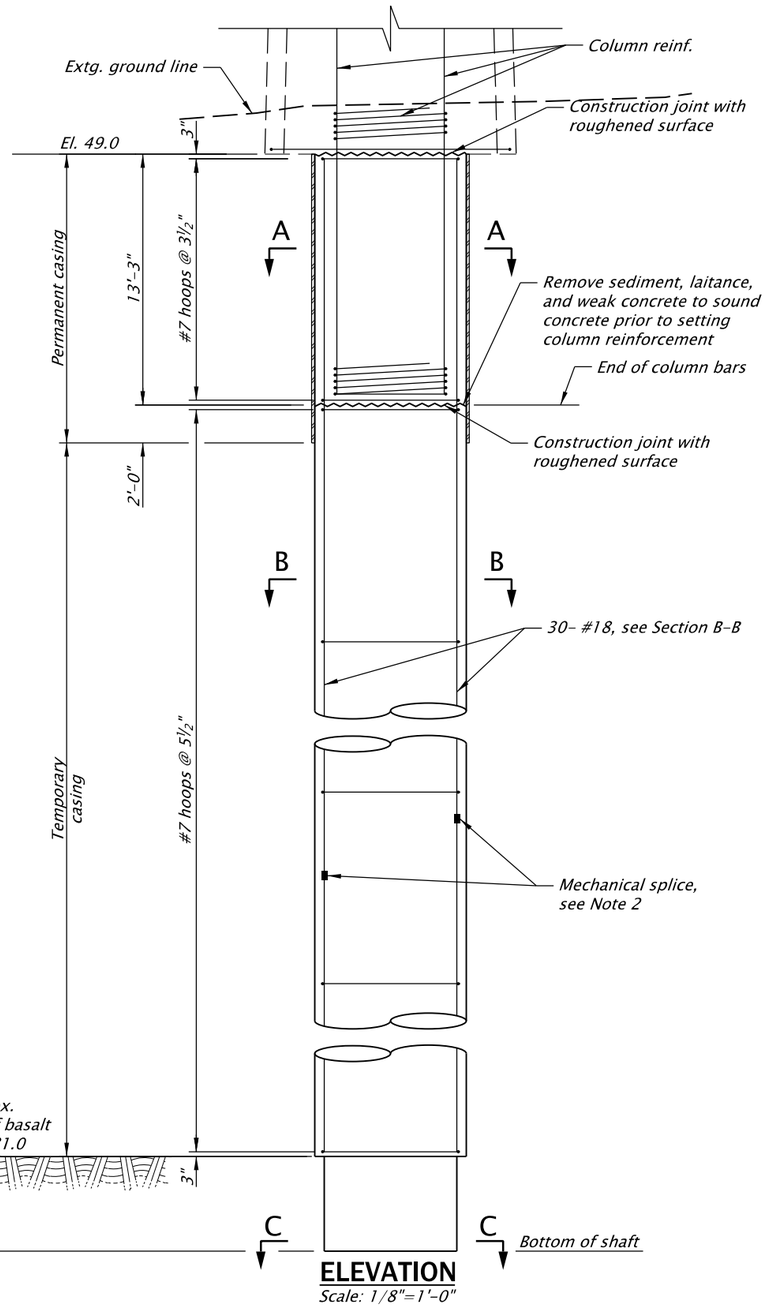
WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

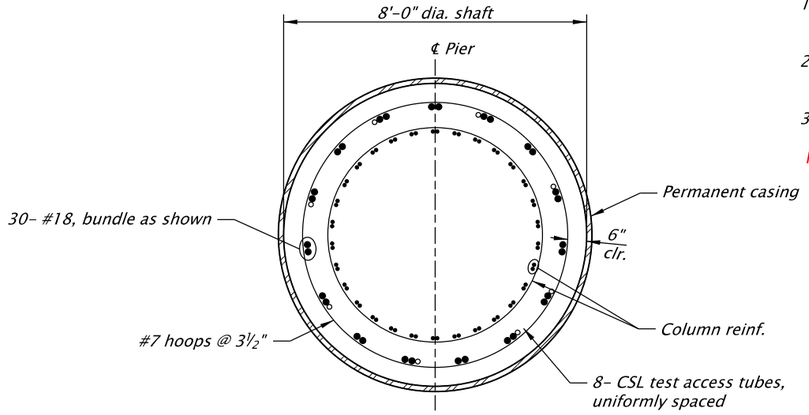
Designer: Jedediah Bingle | Reviewer: Jeff Olson
Drafter: Jade Wang | Checker: Quincy Engineering

PIER 8B SHAFTS

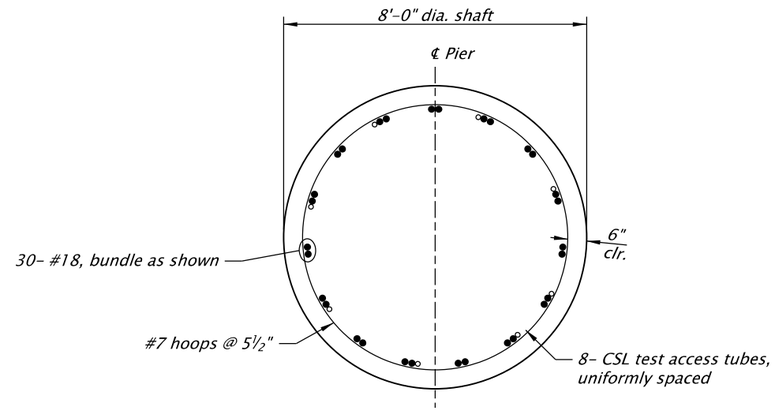
SHEET NO. JBD22



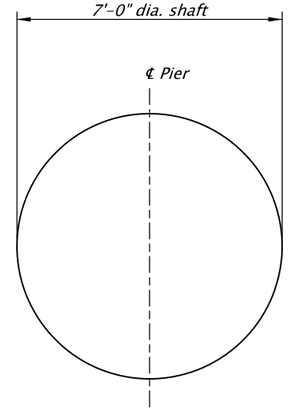
ELEVATION
Scale: 1/8"=1'-0"



SECTION A-A
Scale: 1/4" = 1'-0"



SECTION B-B
Scale: 1/4" = 1'-0"



SECTION C-C
Scale: 1/4" = 1'-0"

Notes:

1. *Top of basalt elevation may vary. See Special Provisions to accommodate variation. Tip elevation may vary to construct required socket into basalt.*
2. *Do not splice more than 50% of reinf. bar at any one location. Stagger splices a minimum of 3'-0".*
3. *For #7 hoops, see sheet JBD30 for Welded Lap Splice Detail.*

Provide all #9 or larger reinforcing steel according to ASTM Specification A706, Grade 80.

For accompanied by drawings, see sht. JBA04

STRUCTURE NO.	09403
BDS DWG NO.	
CALC. BOOK	
HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
DATE	03/21

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503.423.3700

OREGON DEPARTMENT OF TRANSPORTATION

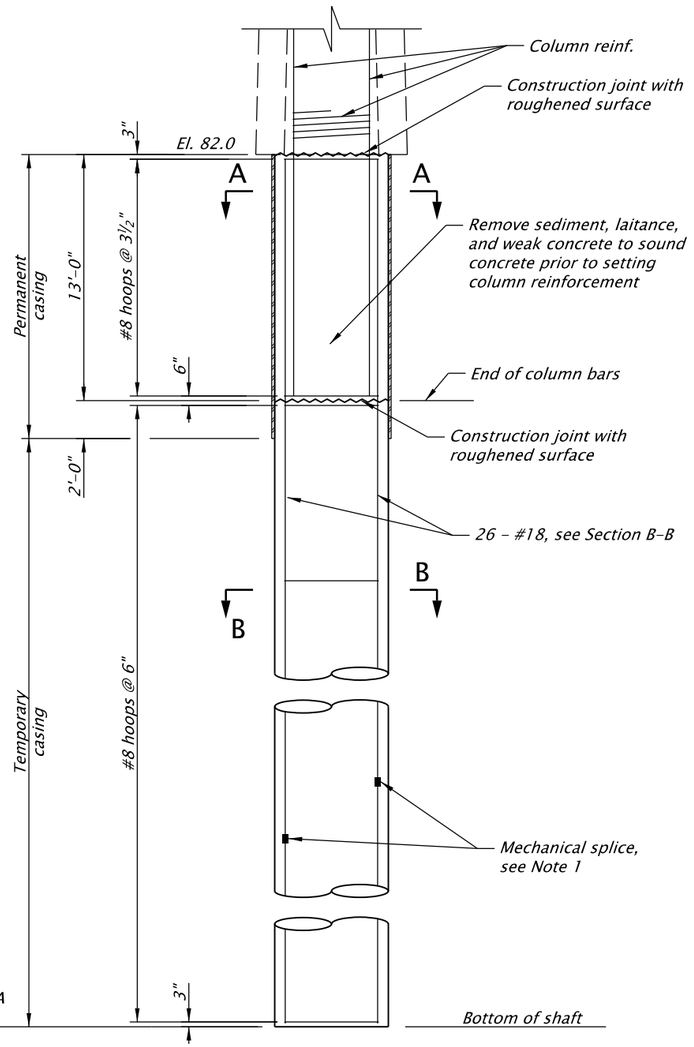
WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Kurt Schweitzer
Drafter: Heather Gonsior
Reviewer: Jeff Olson
Checker: Quincy Engineering

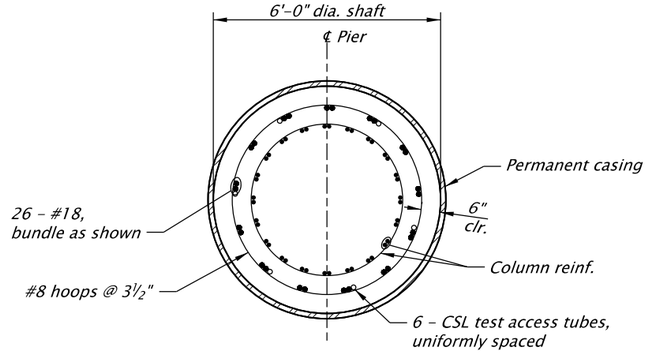
PIER 9 SHAFT

SHEET NO. JBD23



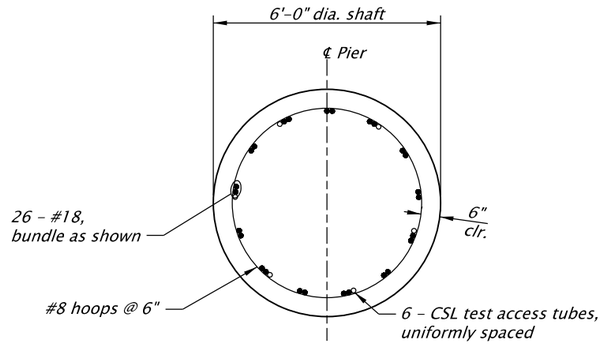
ELEVATION

Scale: ⅛"=1'-0"



SECTION A-A

Scale: ¼"=1'-0"



SECTION B-B

Scale: ¼"=1'-0"

Notes:

1. Do not splice more than 50% of reinf. bar at any one location. Stagger splices a minimum of 3'-0".
2. For #8 hoops, see sheet JBD30 for "Welded Lap Splice Detail".

Provide all #9 or larger reinforcing steel according to ASTM Specification A706, Grade 80.

For accompanied by drawings, see sht. JBA04

STRUCTURE NO.	09403
BDS DWG NO.	
CALC. BOOK	
HWY: 064	M.P.: 9.03
COUNTY	Clackamas
DATE	03/21

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OREGON DEPARTMENT OF TRANSPORTATION

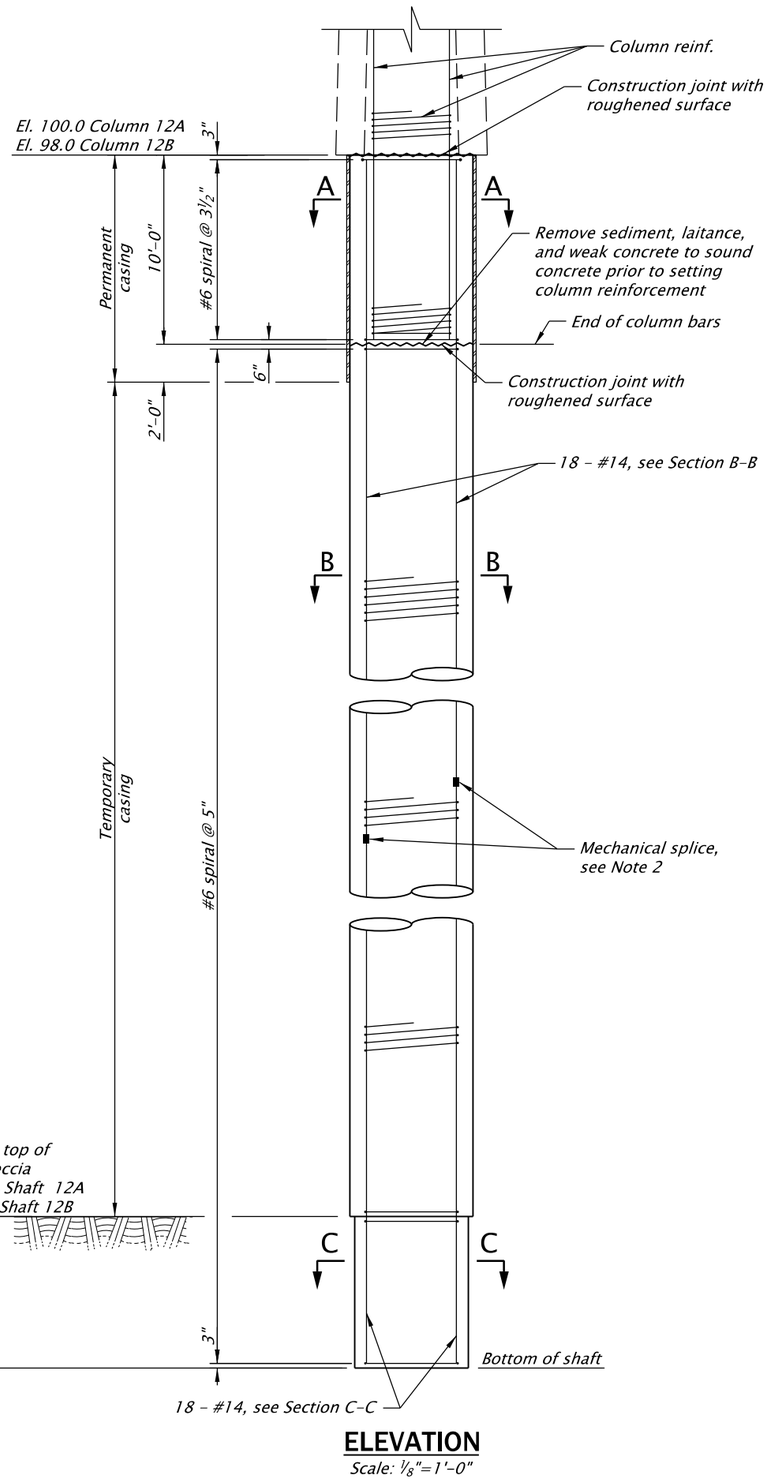
WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

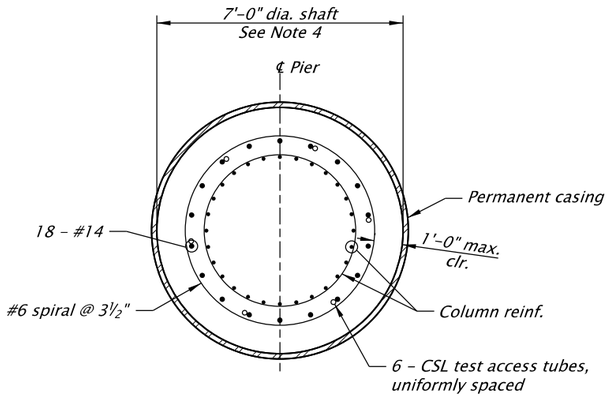
Designer: Kurt Schweitzer | Reviewer: Jeff Olson
Drafter: Heather Gonsior | Checker: Quincy Engineering

PIER 11 SHAFTS

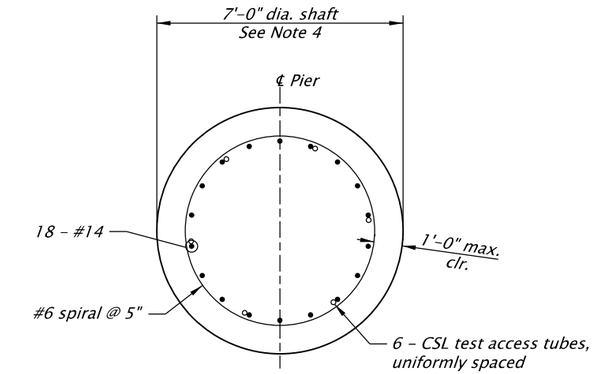
SHEET NO. JBD25



ELEVATION
Scale: ⅛"=1'-0"



SECTION A-A
Scale: ¼"=1'-0"

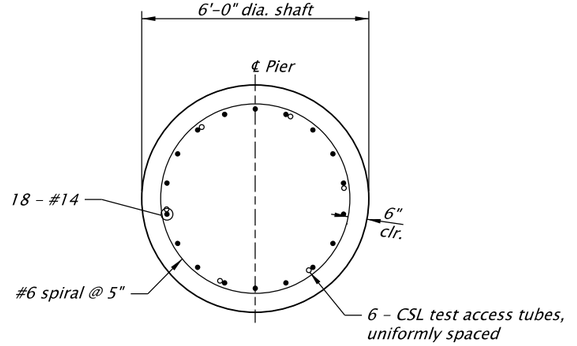


SECTION B-B
Scale: ¼"=1'-0"

Notes:

1. Top of fault breccia elevation may vary. See Special Provisions to accommodate variation. Tip elevation may vary to construct required socket into fault breccia.
2. Do not splice more than 50% of reinf. bar at any one location. Stagger splices a minimum of 3'-0".
3. For spiral termination details, see sheet JBD30.
4. Shaft diameter above estimated top of fault breccia to be determined by contractor with maximum 7'-0" diameter.

Provide all #9 or larger reinforcing steel according to ASTM Specification A706, Grade 80.



SECTION C-C
Scale: ¼"=1'-0"

For accompanied by drawings, see sht. JBA04

STRUCTURE NO.	09403
BDS DWG NO.	
CALC. BOOK	
HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
DATE	03/21

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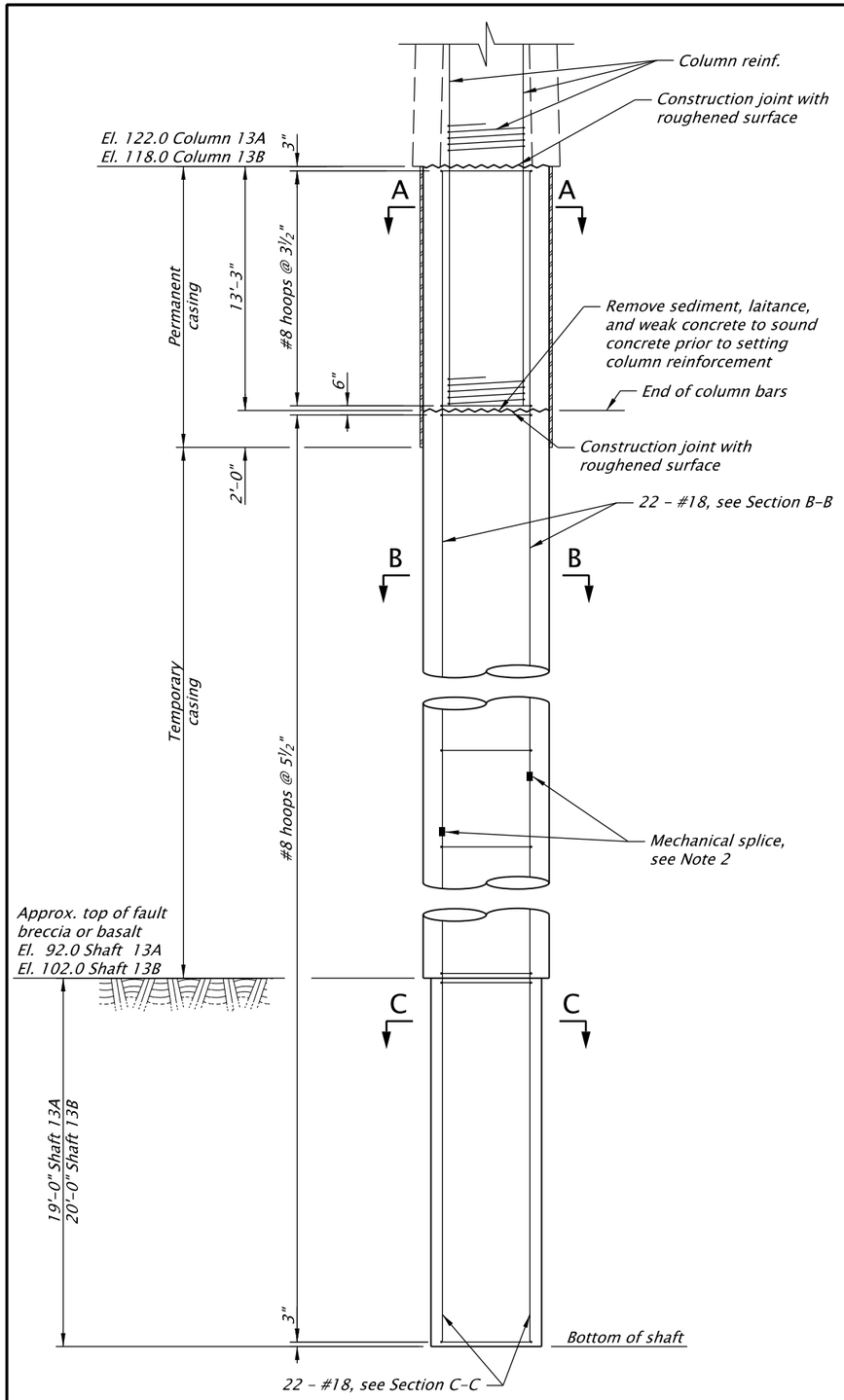
WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

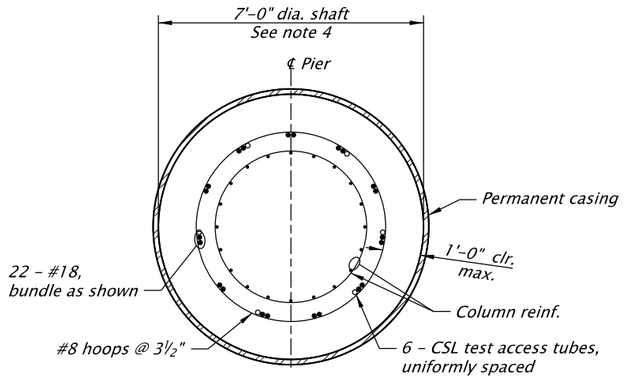
Designer: Kurt Schweitzer	Reviewer: Jeff Olson
Drafter: Heather Gonsior	Checker: Quincy Engineering

PIER 12 SHAFTS — SHEET NO. JBD26

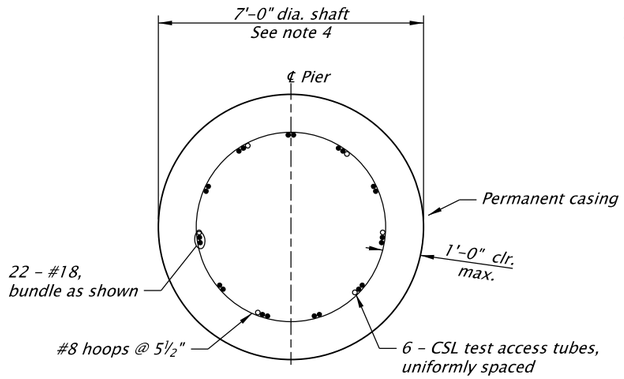
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST



ELEVATION
Scale: ⅛"=1'-0"



SECTION A-A
Scale: ¼"=1'-0"

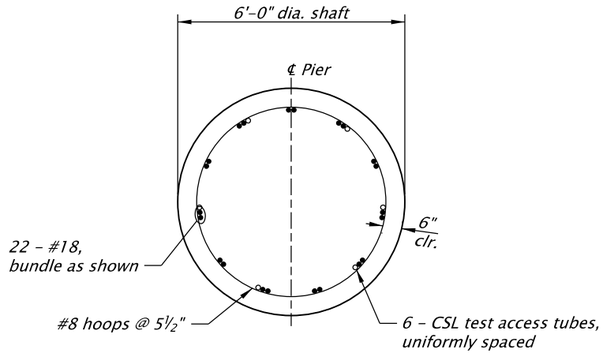


SECTION B-B
Scale: ¼"=1'-0"

Notes:

1. Top of fault breccia or basalt elevation may vary. See Special Provisions to accommodate variation. Tip elevation may vary to construct required socket into fault breccia or basalt.
2. Do not splice more than 50% of reinf. bar at any one location. Stagger splices a minimum of 3'-0".
3. For #8 hoops, see sheet JBD30 for Welded Lap Splice Detail.
4. Shaft diameter above estimated top of bedrock to be determined by contractor with maximum 7'-0" diameter.

Provide all #9 or larger reinforcing steel according to ASTM Specification A706, Grade 80.



SECTION C-C
Scale: ¼"=1'-0"

For accompanied by drawings, see sht. JBA04

STRUCTURE NO.	09403
BDS DWG NO.	
CALC. BOOK	
HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
DATE	03/21

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HDR ENGINEERING, INC
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PORTLAND, OR 97204-1134
503.423.3700

WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Kurt Schweitzer
Drafter: Heather Gonsior
Reviewer: Jeff Olson
Checker: Quincy Engineering

PIER 13 SHAFTS

SHEET NO. JBD27

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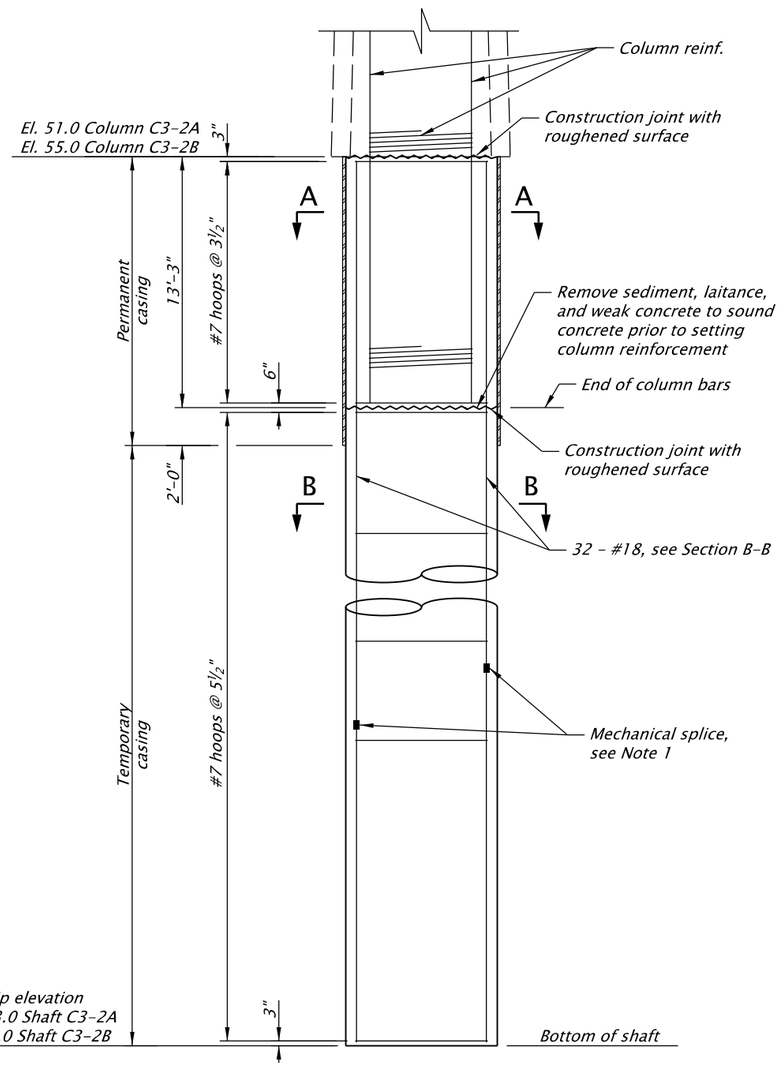
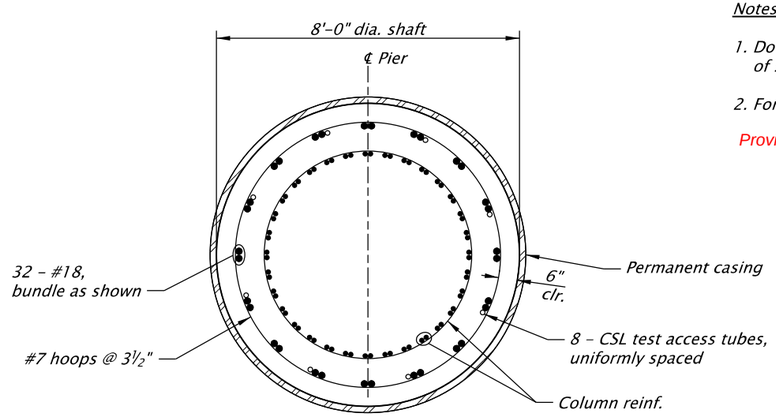
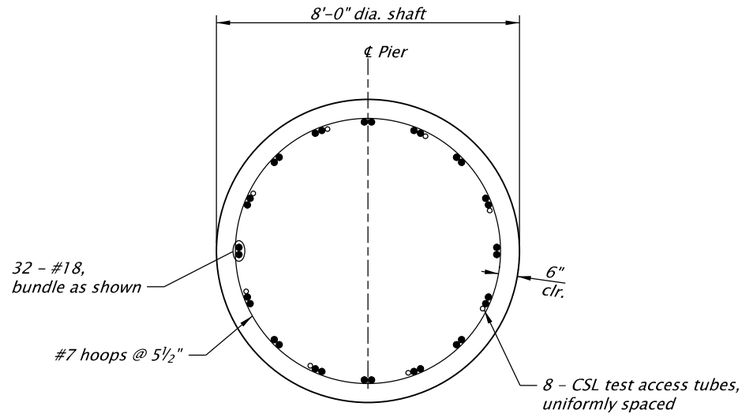


ELEVATION
Scale: 1/8"=1'-0"



SECTION A-A
Scale: 1/4"=1'-0"



SECTION B-B
Scale: 1/4"=1'-0"

Notes:

1. Do not splice more than 50% of reinf. bar at any one location. Stagger splices a minimum of 3'-0".
2. For #7 hoops, see sheet JBD30 for Welded Lap Splice Detail.

Provide all #9 or larger reinforcing steel according to ASTM Specification A706, Grade 80.

For accompanied by drawings, see sht. JBA04

STRUCTURE NO.	09403
BDS DWG NO.	
CALC. BOOK	
HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
DATE	03/21

SCALE WARNING
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WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

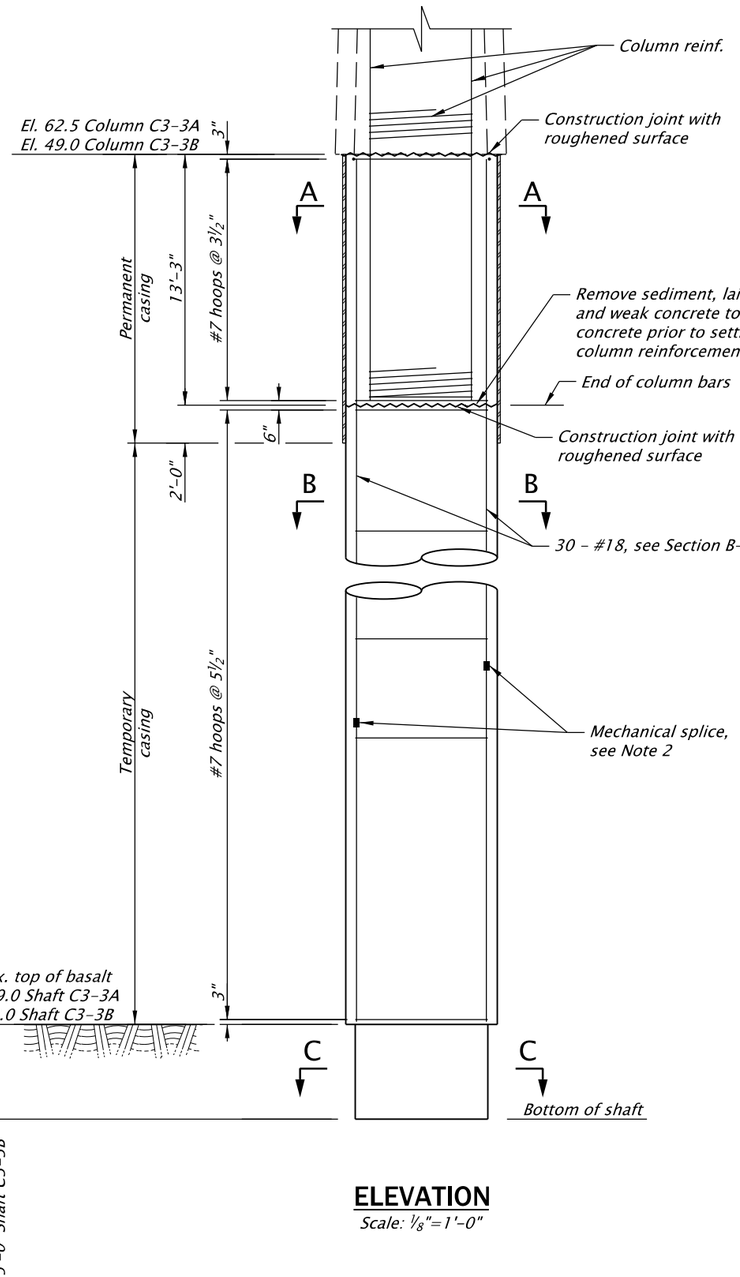
I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Kurt Schweitzer
Reviewer: Jeff Olson
Drafter: Heather Gonsior
Checker: Quincy Engineering

PIER C3-2 SHAFTS

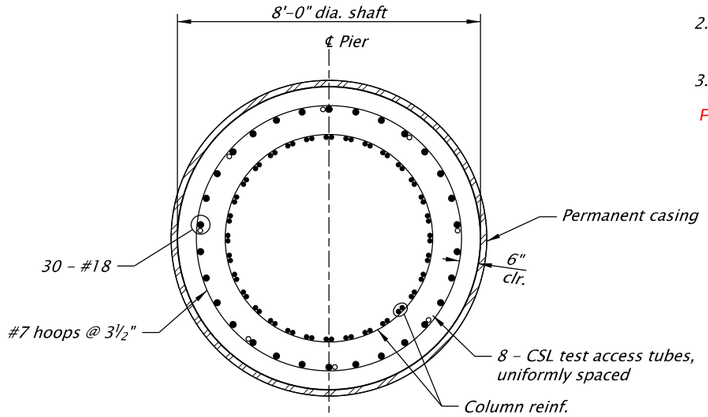
SHEET NO. JBD28

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST



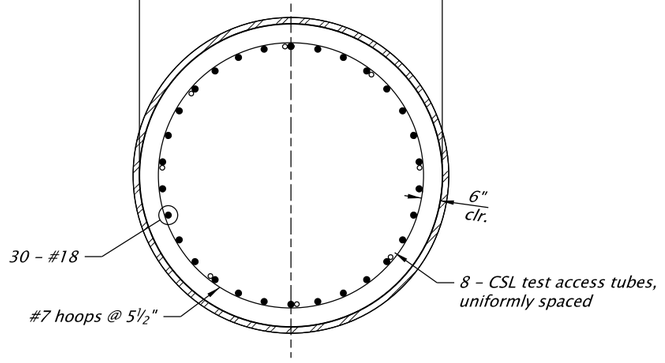
ELEVATION

Scale: ⅛"=1'-0"



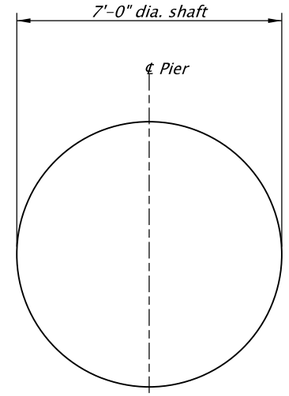
SECTION A-A

Scale: ¼"=1'-0"



SECTION B-B

Scale: ¼"=1'-0"



SECTION C-C

Scale: ¼"=1'-0"

Notes:

1. *Top of basalt elevation may vary. See Special Provisions to accommodate variation. Tip elevation may vary to construct required socket into basalt.*
2. *Do not splice more than 50% of reinf. bar at any one location. Stagger splices a minimum of 3'-0".*
3. *For #7 hoops, see sheet JBD30 for Welded Lap Splice Detail.*

Provide all #9 or larger reinforcing steel according to ASTM Specification A706, Grade 80.

For accompanied by drawings, see sht. JBA04

STRUCTURE NO.	09403
BDS DWG NO.	
CALC. BOOK	
HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
DATE	03/21

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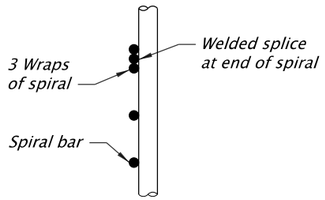
WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

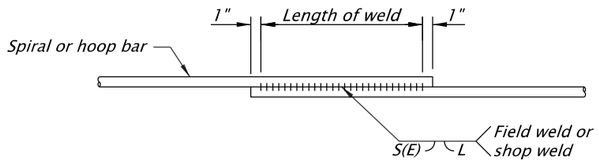
Designer: Kurt Schweitzer | Reviewer: Jeff Olson
Drafter: Heather Gonsior | Checker: Quincy Engineering

PIER C3-3 SHAFTS

SHEET NO. JBD29



SPIRAL TERMINATION DETAIL



WELDED LAP SPLICE DETAIL

Welding shall meet the requirements of Specification Section 00530.42(d). for weld dimensions, see table below.

SHAFT SPIRAL OPTIONS

	Weld dimensions (in.)		
	S	E	Length (L)
#4	1/4	1/8	4
#5	5/16	3/16	6
#6	3/8	3/16	6

SHAFT HOOP OPTIONS

	Weld dimensions (in.)		
	S	E	Length (L)
#7	7/16	1/4	7
#8	1/2	1/4	8
#9	9/16	5/16	8

SCALE WARNING

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STRUCTURE NO. 09403

BDS DWG NO.

CALC. BOOK

HWY: 064
M.P.: 9.03

COUNTY Clackamas

DATE 03/21

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OREGON DEPARTMENT OF TRANSPORTATION

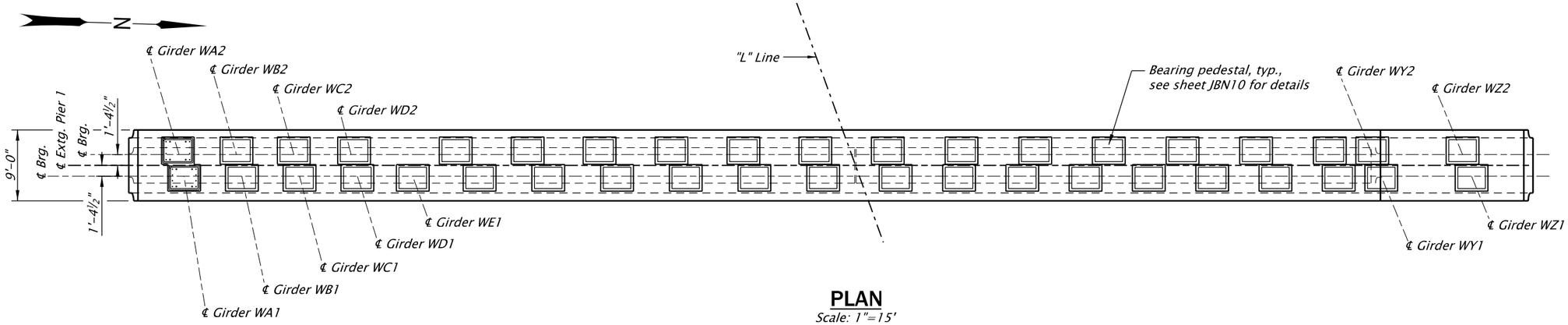
WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

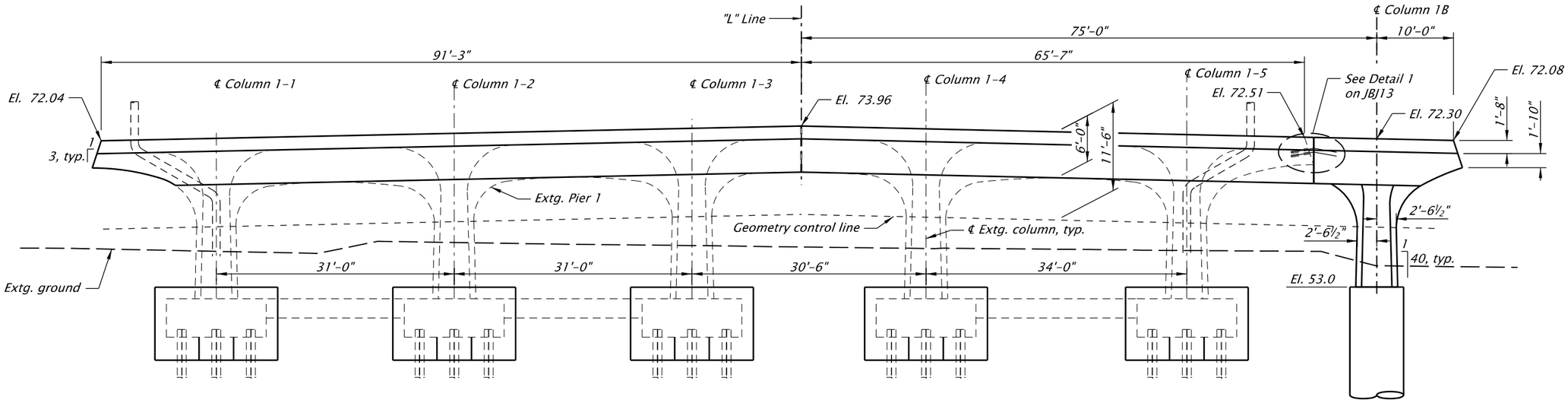
Designer: Jedediah Bingle
Drafter: Jade Wang
Reviewer: Jeff Olson
Checker: Quincy Engineering

SHAFT DETAILS

SHEET NO. JBD30



PLAN
Scale: 1"=15'



ELEVATION
Scale: 1"=15'

For accompanied by drawings, see sht. JBA04

Note:

For bearing layout, see JBP06.

STRUCTURE NO.	09403
BDS DWG NO.	
CALC. BOOK	
HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
DATE	03/21

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WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Kristopher Walker | Reviewer: Jeff Olson
Drafter: Jade Wang | Checker: Quincy Engineering

PIER 1 GEOMETRY PLAN AND ELEVATION | SHEET NO. JBJ09

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N

℄ Extg. Brg.
℄ Extg. Pier 2
℄ Extg. Brg.
℄ Girder WA3
℄ Girder WB3
"L" Line
Bearing pedestal, typ., see sheet JBJ28 for details
Extg. Pier 2
℄ Girder WY3
℄ Girder WZ3
℄ New Brg.
1'-11"
12'-7"
1'-6"
℄ Girder WD2
℄ Girder WC2
℄ Girder WB2
℄ Girder WA2
℄ Girder WZ2
℄ Girder WY2

PLAN
Scale: 1"=15'

12'-7"
Varies 9'-6" at end

SECTION A-A
Scale: 1"=15'

℄ Column 2A
"L" Line
℄ Column 2B
11'-3"
76'-1"
67'-0"
11'-3"
66'-9"
57'-8"
A
B
El. 71.74
El. 72.06
El. 73.10
El. 71.15
El. 70.45
1
3, typ.
16'-0" typ.
9'-6" typ.
Extg. Pier 2
A
B
5'-6½" typ.
5'-6½" typ.
R = 13'-0", typ.
R = 7'-6", typ.
El. 57.10
℄ Extg. column, typ.
℄ Column El. 54.83
R = 12'-0", typ.
R = 4'-6", typ.
1
40, typ.
El. 46.0
℄ Column El. 55.91
Extg. ground
El. 46.5
For column details, see sheet JBJ20, typ.
For drilled shaft details, see sheet JBD13, typ.

ELEVATION
Scale: 1"=15'

℄ Pier
12'-7"
6'-3½"
6'-3½"
Varies
3'-0"
R = 1'-0", typ.
Extg. crossbeam
7'-6"
16'-0"
6"
6"
4'-9½"
4'-9½"
9'-7"

SECTION B-B
Scale: 1"=15'

Notes:

1. See sheet JBJ30 for existing column removal limits.
2. See sheets JBP13 and JBP14 for bearing layout.

For accompanied by drawings, see sht. JBA04

STRUCTURE NO.	09403
BDS DWG NO.	
CALC. BOOK	
HWY: 064	
M.P.: 9.03	
COUNTY	Clackamas
DATE	03/21

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WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Jedediah Bingle
Reviewer: Jeff Olson
Drafter: Jade Wang
Checker: Quincy Engineering

PIER 2 GEOMETRY PLAN AND ELEVATION

SHEET NO. JBJ18

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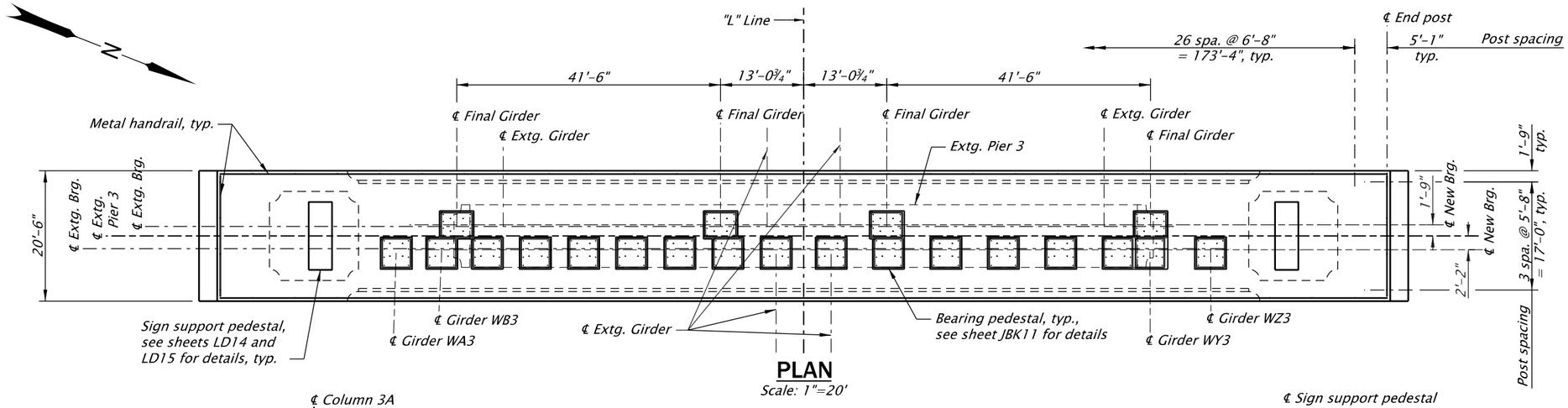
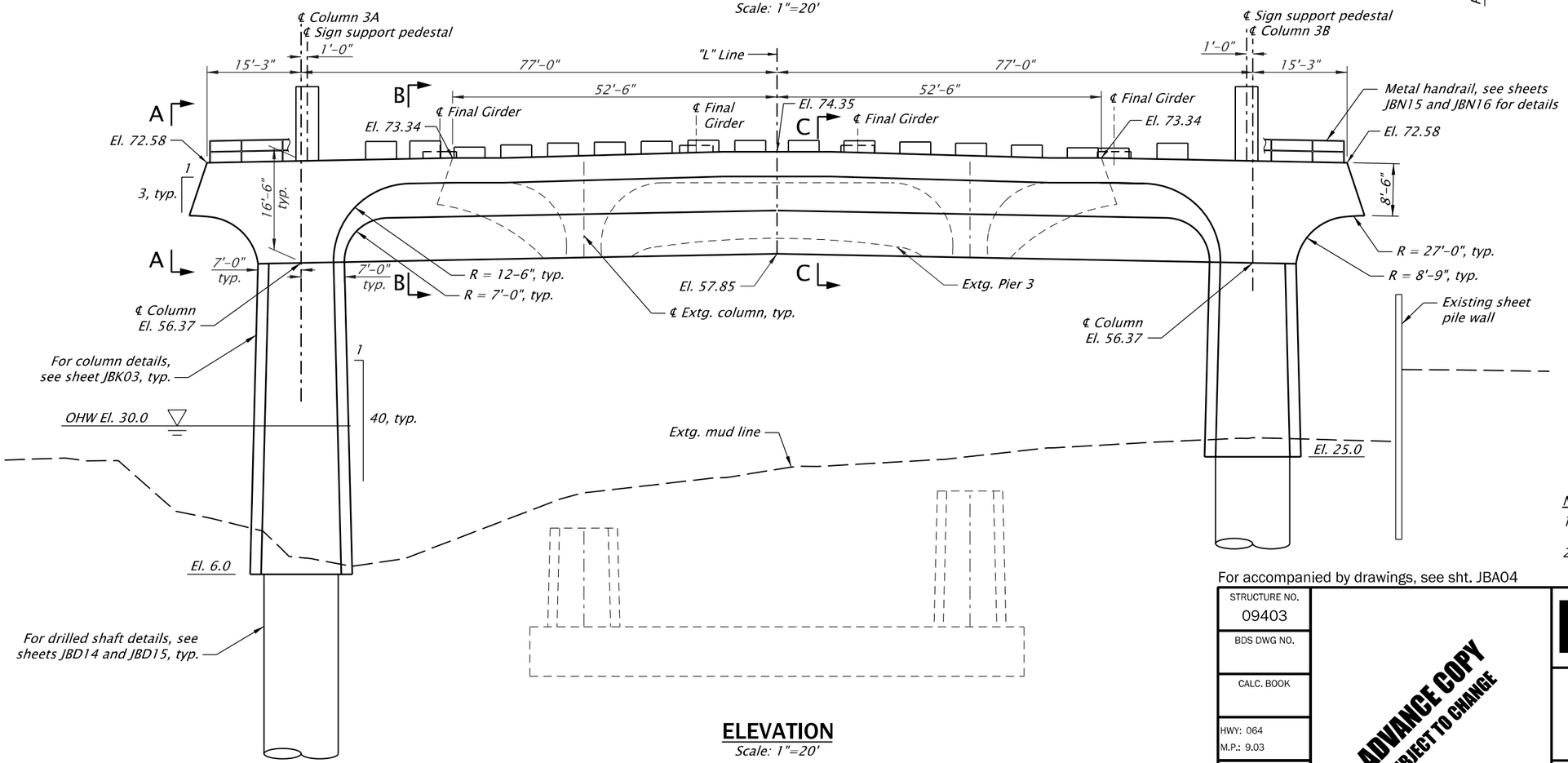
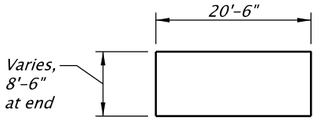


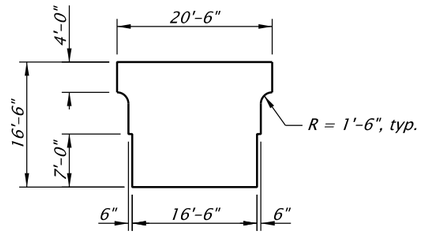
PLAN
Scale: 1"=20'



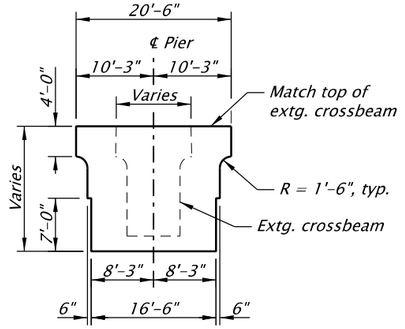
ELEVATION
Scale: 1"=20'



SECTION A-A
Scale: 1"=20'



SECTION B-B
Scale: 1"=20'



SECTION C-C
Scale: 1"=20'

Notes:

1. *See sheet JBJ30 for existing column removal limits.*
2. *See sheets JBP18 and JBP19 for bearing layout.*

For accompanied by drawings, see sht. JBA04

STRUCTURE NO.	09403
BDS DWG NO.	
CALC. BOOK	
HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
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WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Jedediah Bingle | Reviewer: Jeff Olson
Drafter: Jade Wang | Checker: Quincy Engineering

PIER 3 GEOMETRY PLAN AND ELEVATION

SHEET NO. JBK01

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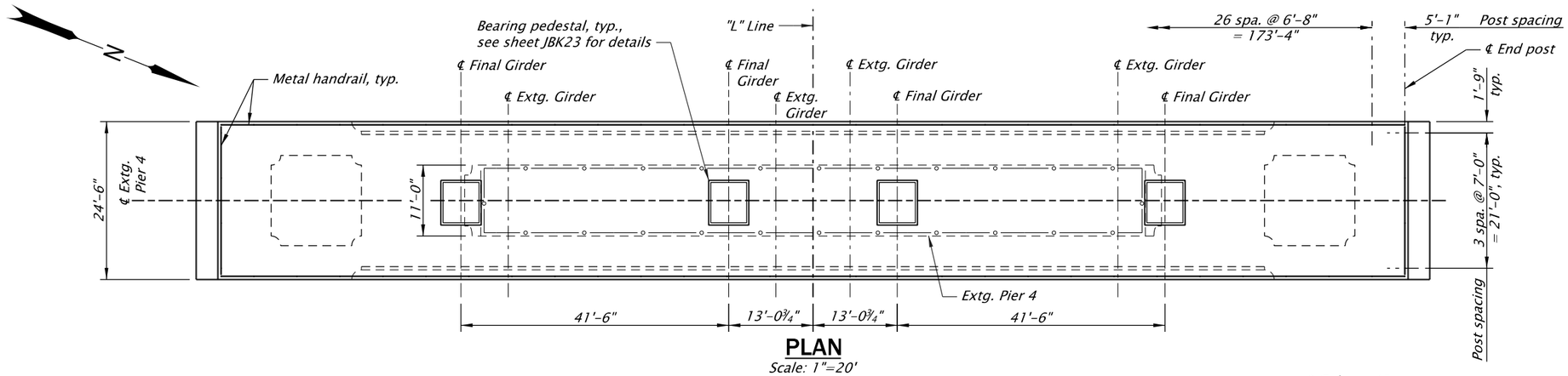
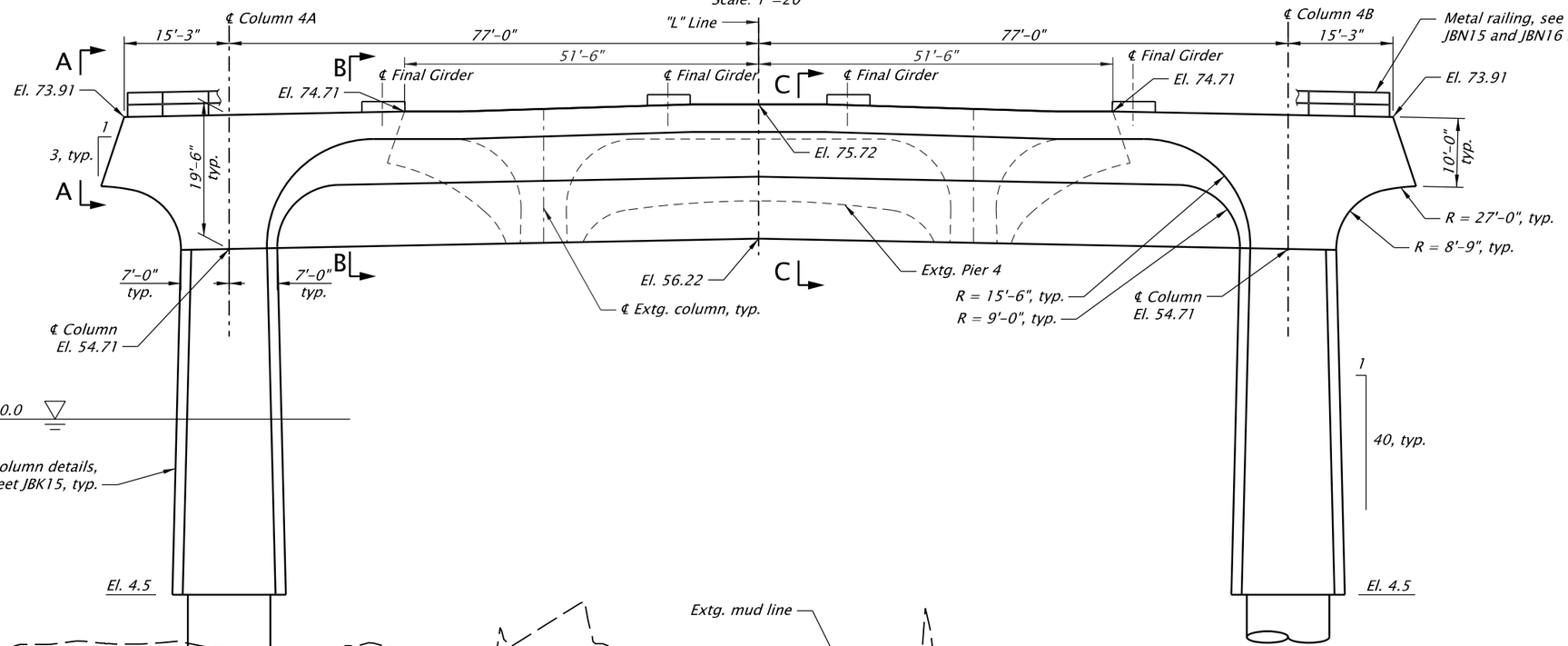
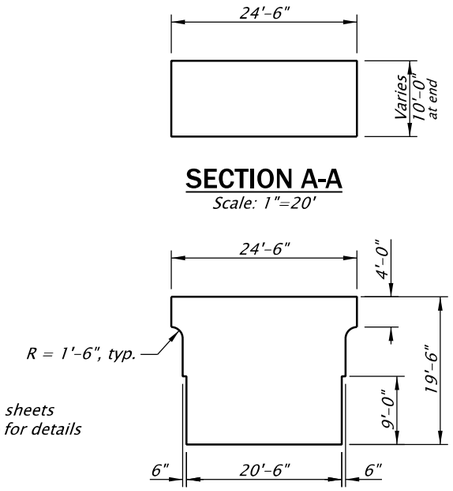


PLAN
Scale: 1"=20'



ELEVATION
Scale: 1"=20'



Notes:
1. See sheet JBJ30 for existing column removal limits.
2. see sheets JBP25 and JBP26 for bearing layout.

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For accompanied by drawings, see sht. JBA04

STRUCTURE NO.	09403
BDS DWG NO.	
CALC. BOOK	
HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
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WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Jedediah Bingle | Reviewer: Jeff Olson
Drafter: Jade Wang | Checker: Quincy Engineering

PIER 4 GEOMETRY PLAN AND ELEVATION

SHEET NO. JBK13

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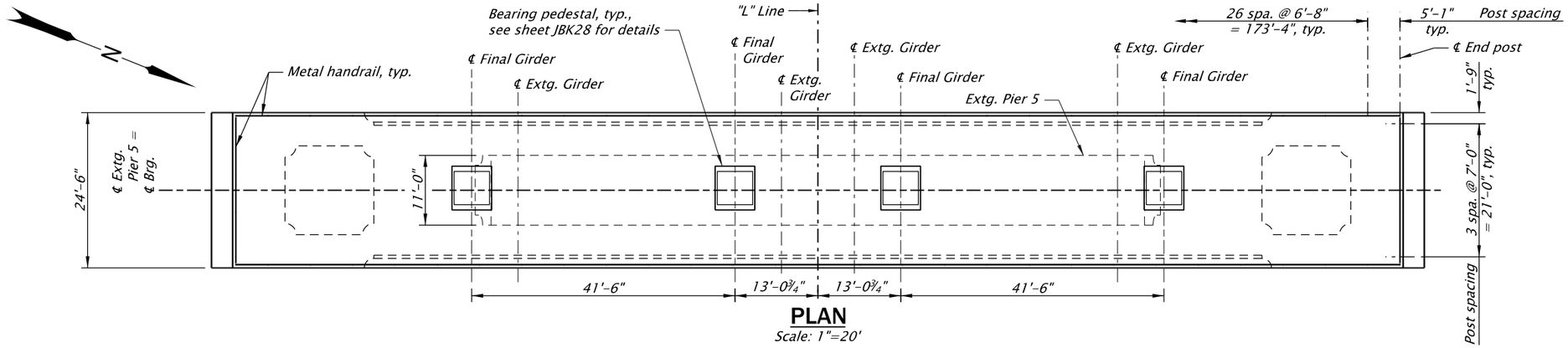
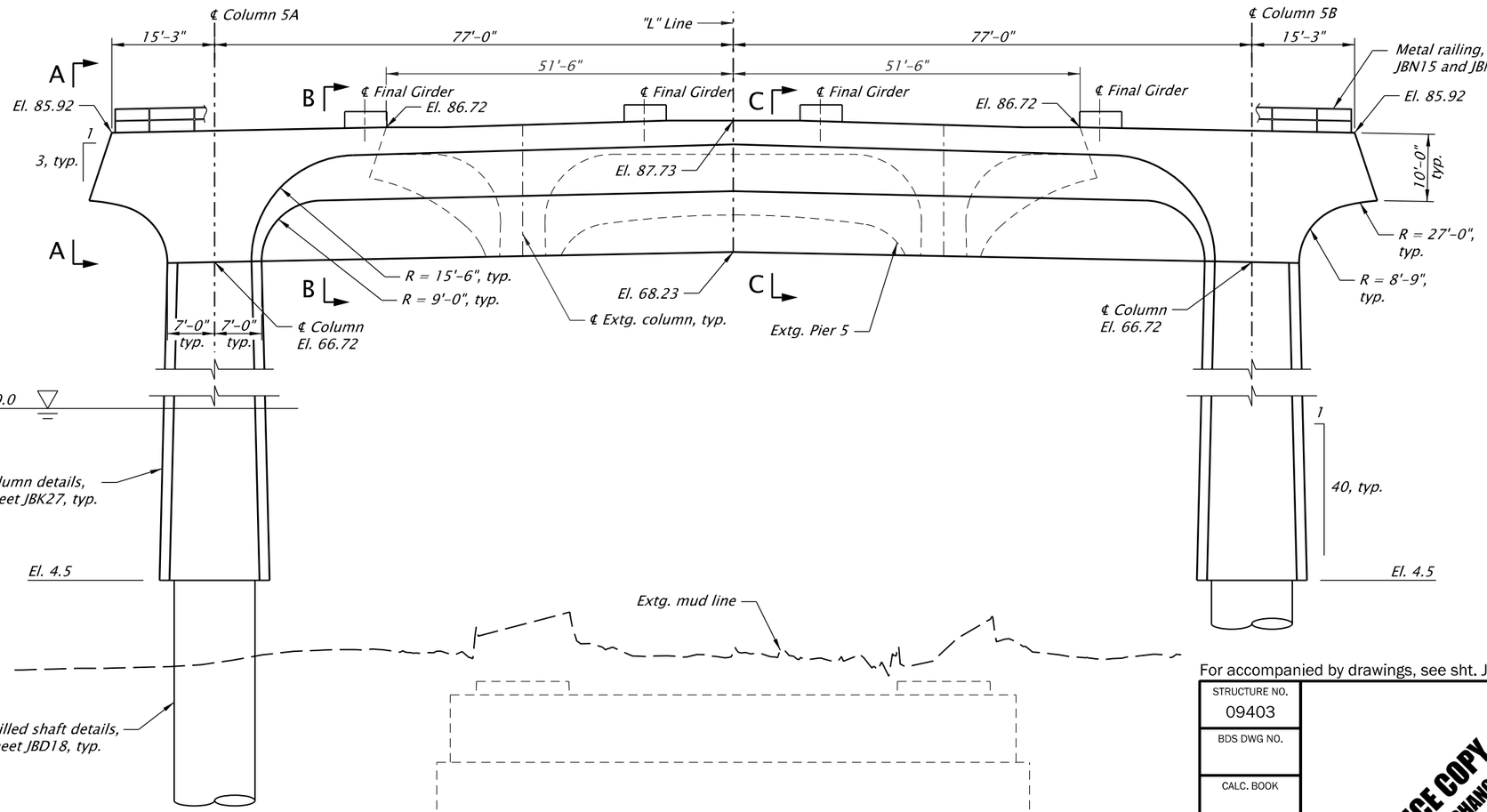
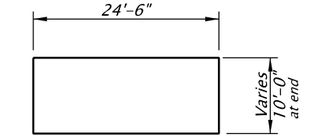


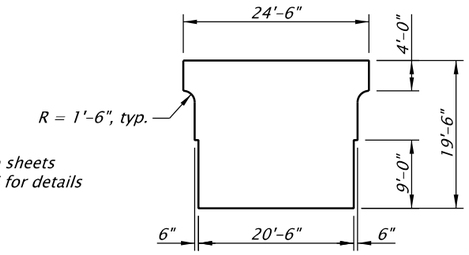
PLAN
Scale: 1"=20'



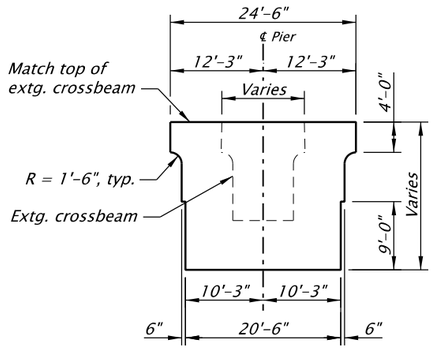
ELEVATION
Scale: 1"=20'



SECTION A-A
Scale: 1"=20'



SECTION B-B
Scale: 1"=20'



SECTION C-C
Scale: 1"=20'

Notes:

1. Pier 5 post-tensioning details and crossbeam reinforcement details are similar to Pier 4. See sheets JBK16 to JBK22.
2. See sheet JBJ30 for existing column removal limits.
3. See sheets JBP25 and JBP26 for bearing layout.

For accompanied by drawings, see sht. JBA04

STRUCTURE NO.	09403
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CALC. BOOK	
HWY: 064 M.P.: 9.03	
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WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Jedediah Bingle
Drafter: Jade Wang
Reviewer: Jeff Olson
Checker: Quincy Engineering

PIER 5 GEOMETRY PLAN AND ELEVATION

SHEET NO. JBK25

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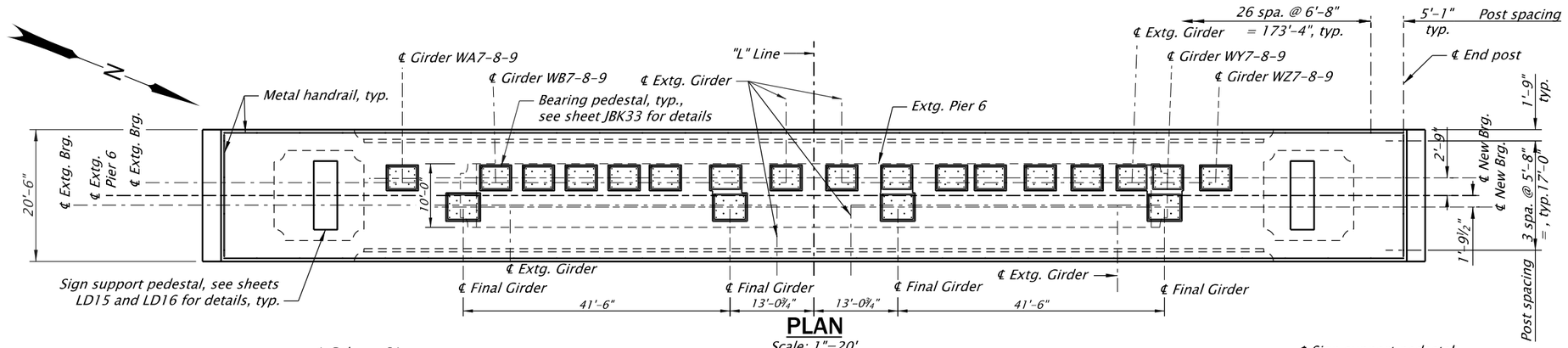
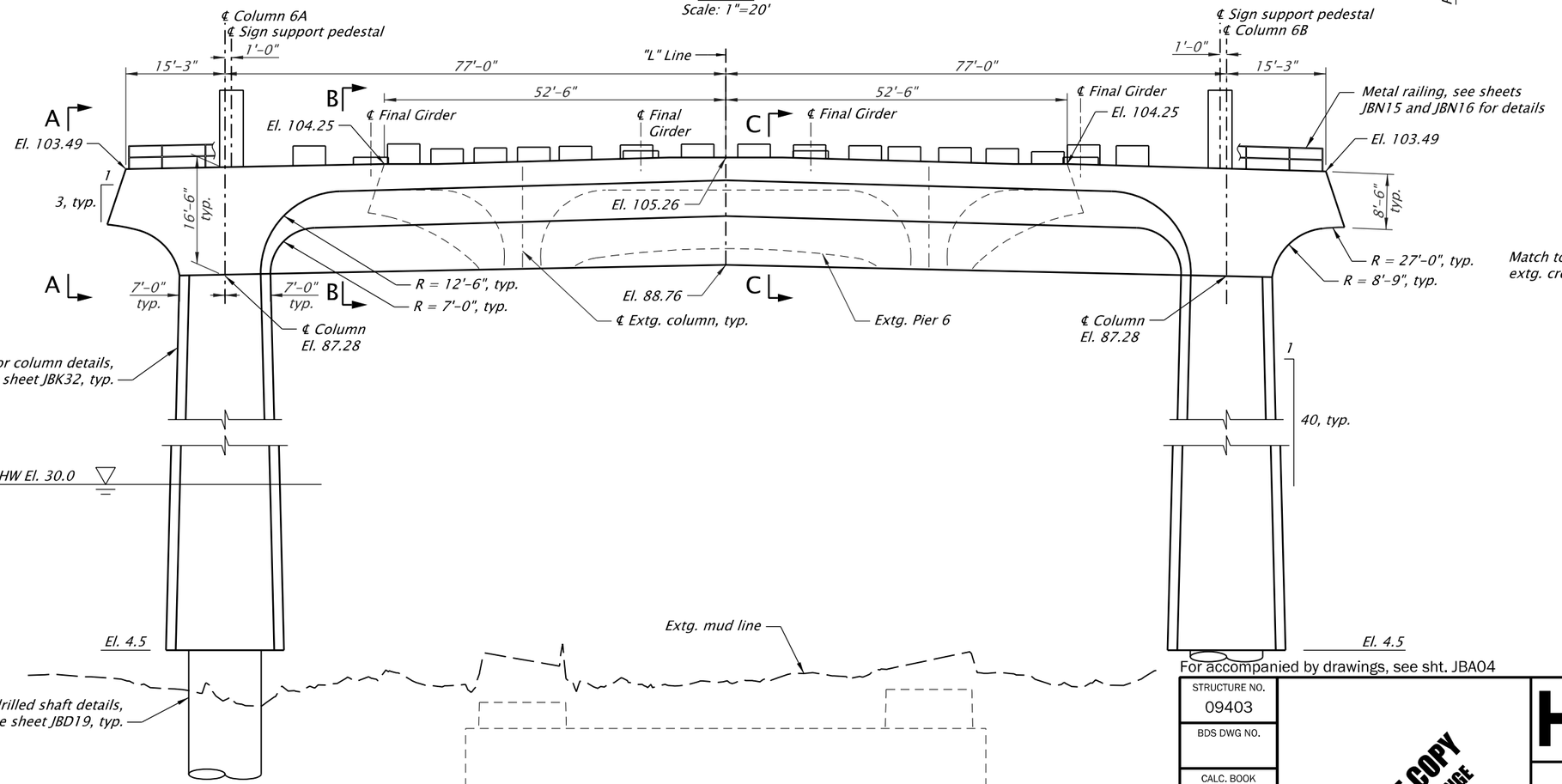
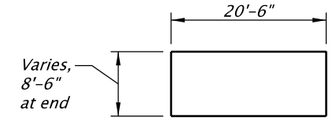


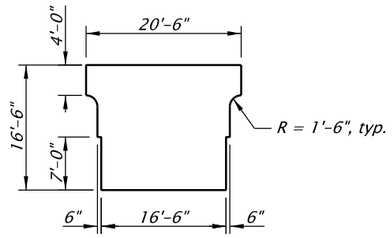
PLAN
Scale: 1"=20'



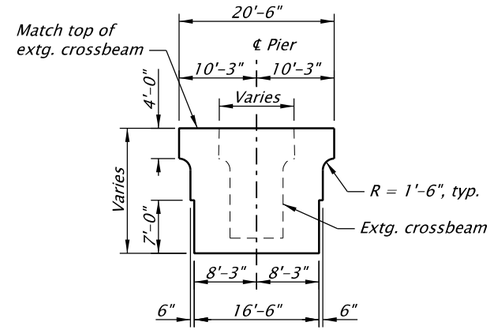
ELEVATION
Scale: 1"=20'



SECTION A-A
Scale: 1"=20'



SECTION B-B
Scale: 1"=20'



SECTION C-C
Scale: 1"=20'

For accompanied by drawings, see sht. JBA04

Notes:

1. Pier 6 post-tensioning details, crossbeam reinforcement details and removal details are similar to Pier 3. See sheets JBK04 to JBK12.
2. See sheet JBJ30 for existing column removal limits.
3. See sheets JBP29 and JBP30 for bearing details.

SCALE WARNING
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STRUCTURE NO.	09403
BDS DWG NO.	
CALC. BOOK	
HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
DATE	03/21

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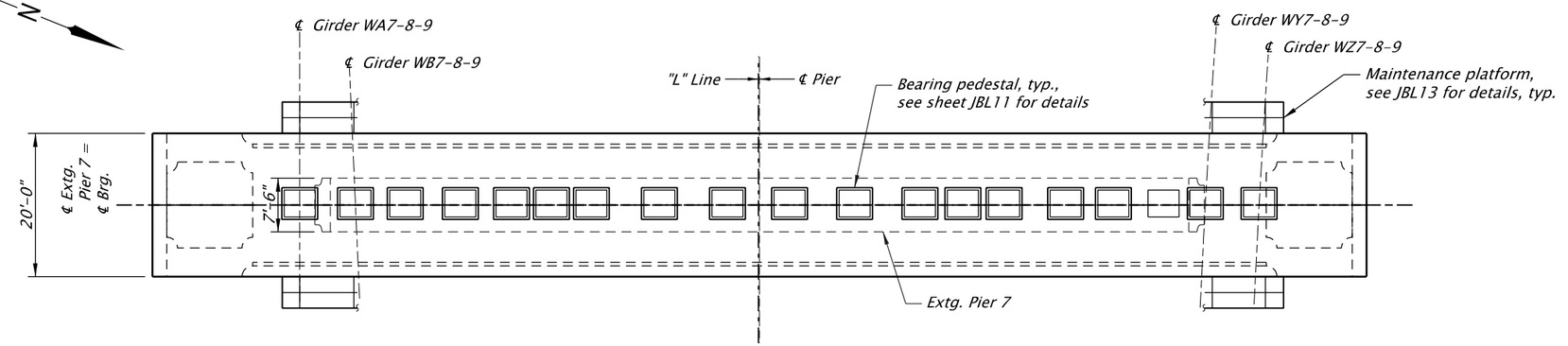
WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

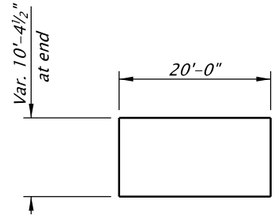
Designer: Jedediah Bingle
Drafter: Jade Wang
Reviewer: Jeff Olson
Checker: Quincy Engineering

PIER 6 GEOMETRY PLAN AND ELEVATION

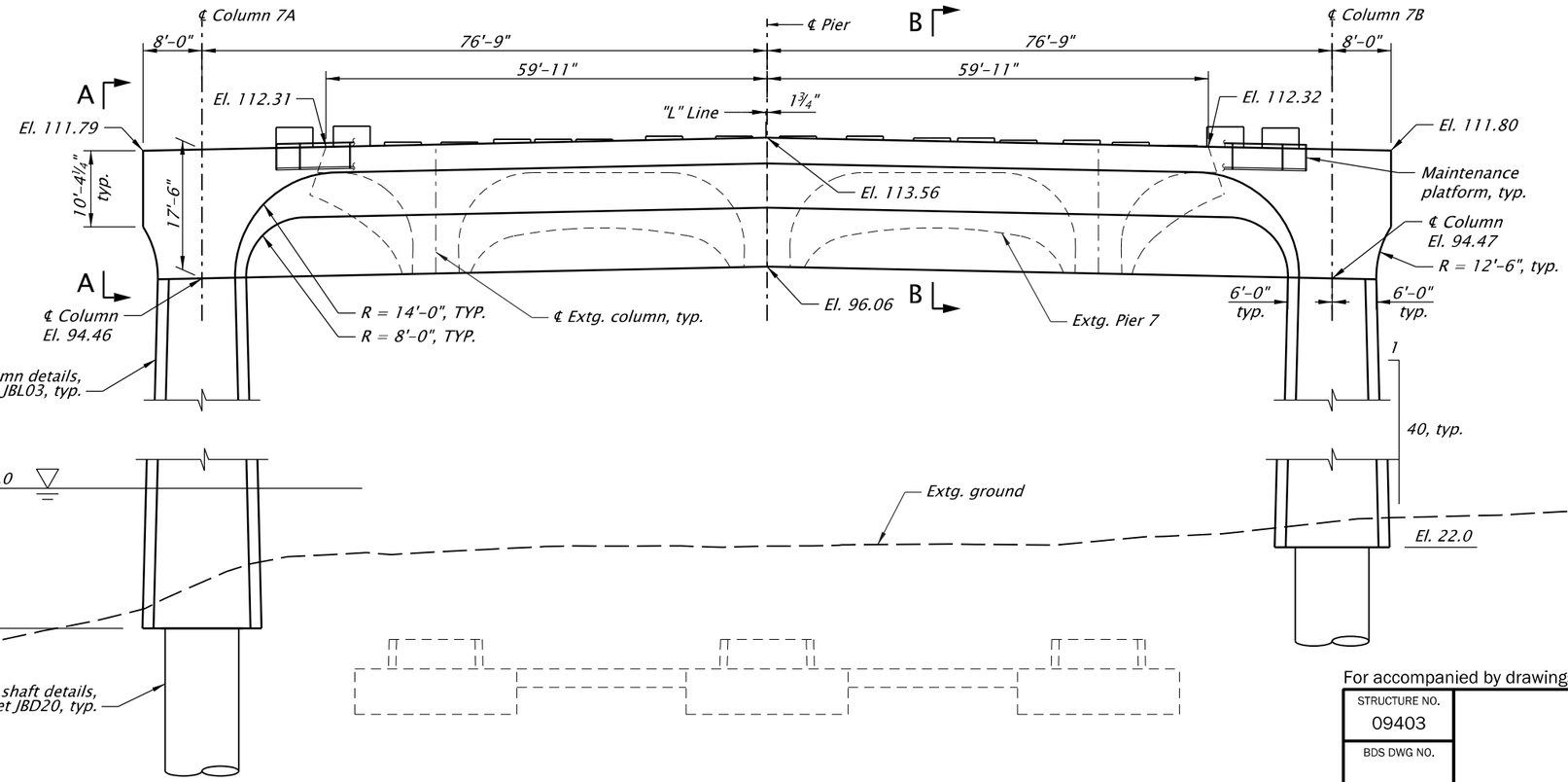
SHEET NO. JBK30



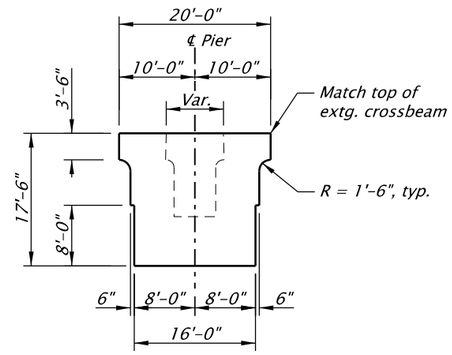
PLAN
Scale: 1"=20'



SECTION A-A
Scale: 1"=20'



ELEVATION
Scale: 1"=20'



SECTION B-B
Scale: 1"=20'

Notes:

1. See sheet JBJ30 for existing column removal limits.
2. See sheets JBP38 and JBP39 for bearing layout.

For accompanied by drawings, see sht. JBA04

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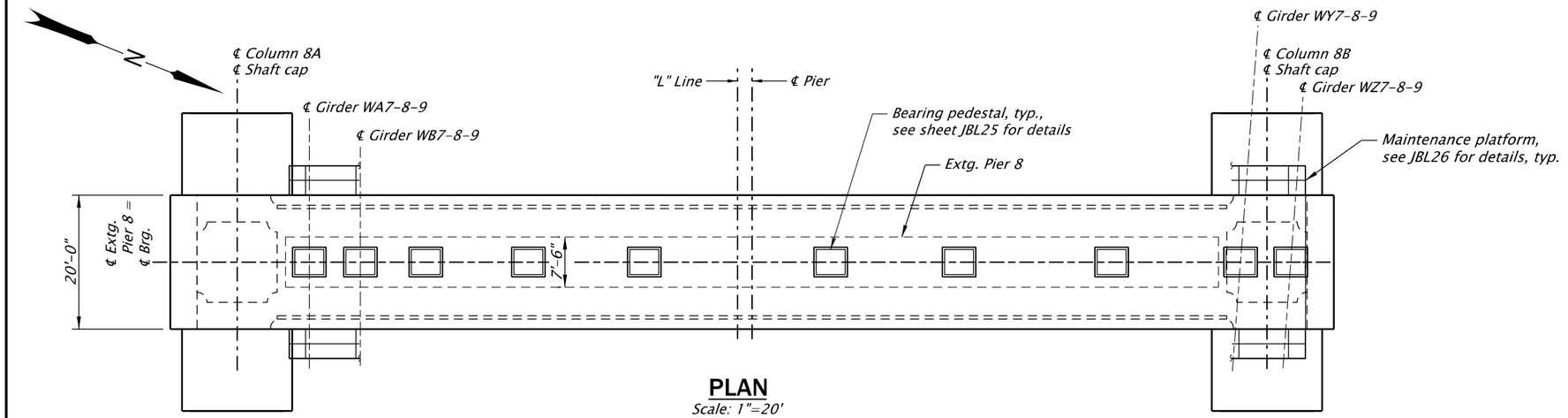
I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Jedediah Bingle
Drafter: Jade Wang
Reviewer: Jeff Olson
Checker: Quincy Engineering

PIER 7 GEOMETRY PLAN AND ELEVATION

SHEET NO. JBL01



PLAN
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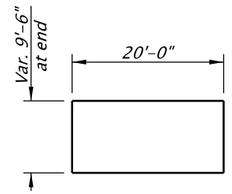
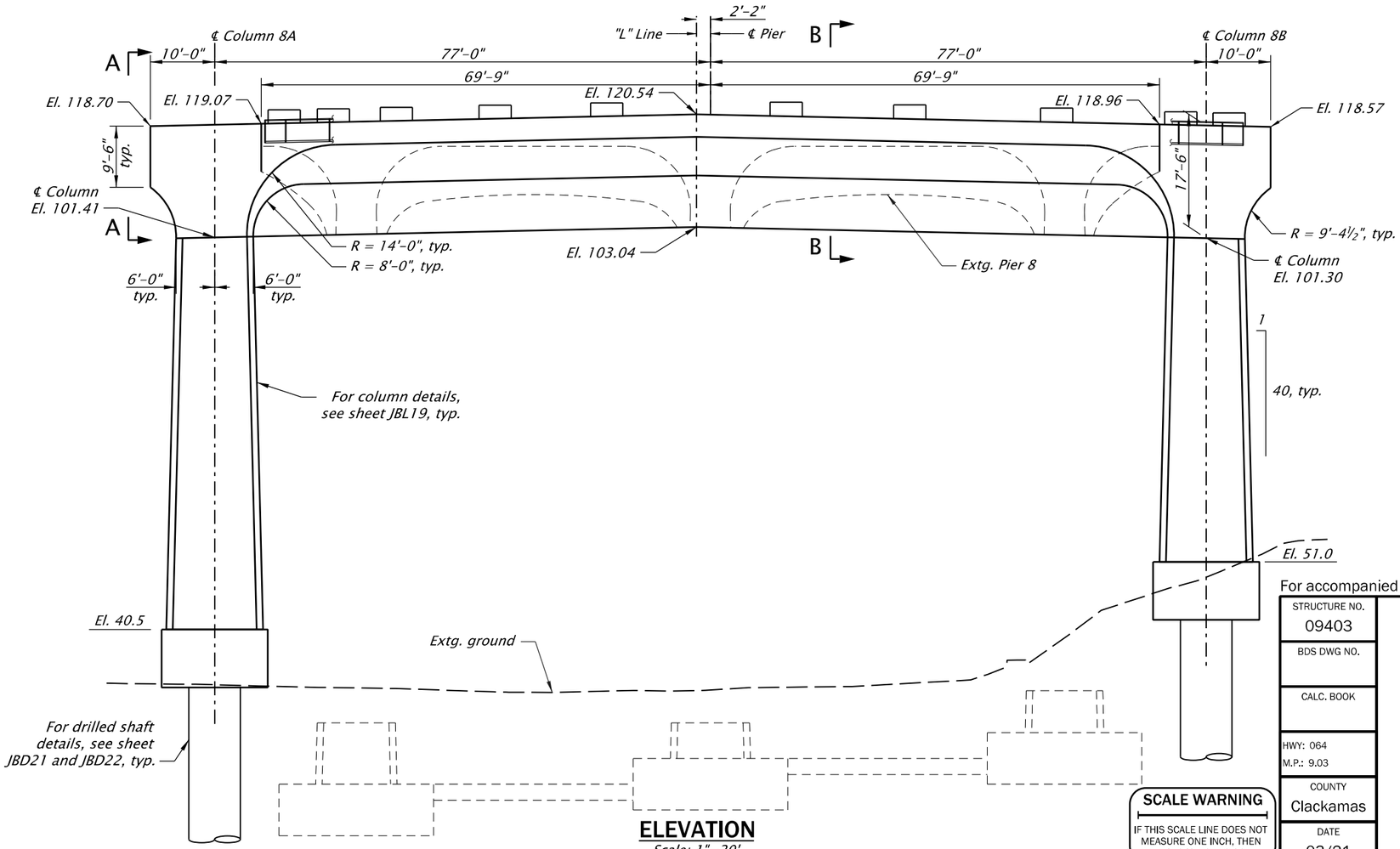
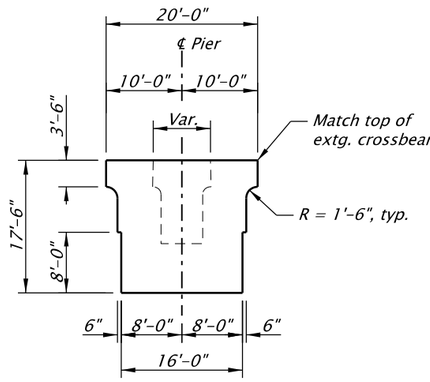


SECTION A-A
Scale: 1"=20'



ELEVATION
Scale: 1"=20'



SECTION B-B
Scale: 1"=20'

Notes:

1. *Pier 8 removal details are similar to Pier 7. See sheet JBL12.*
2. *See sheet JBJ30 for existing column removal limits.*
3. *See sheets JBP42 and JBP43 for bearing layout.*

For accompanied by drawings, see sht. JBA04

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I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Jedediah Bingle | Reviewer: Jeff Olson
Drafter: Jade Wang | Checker: Quincy Engineering

PIER 8 GEOMETRY PLAN AND ELEVATION | SHEET NO. JBL14

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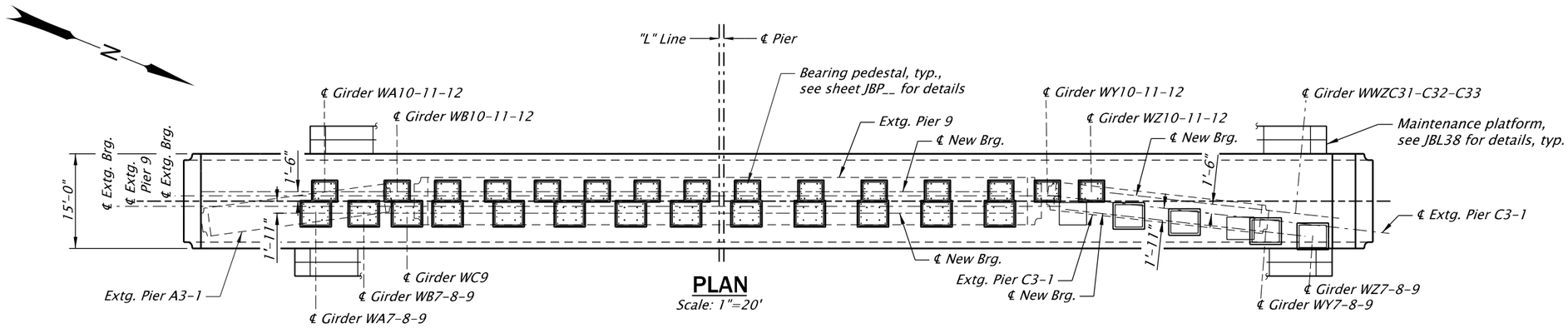

PLAN
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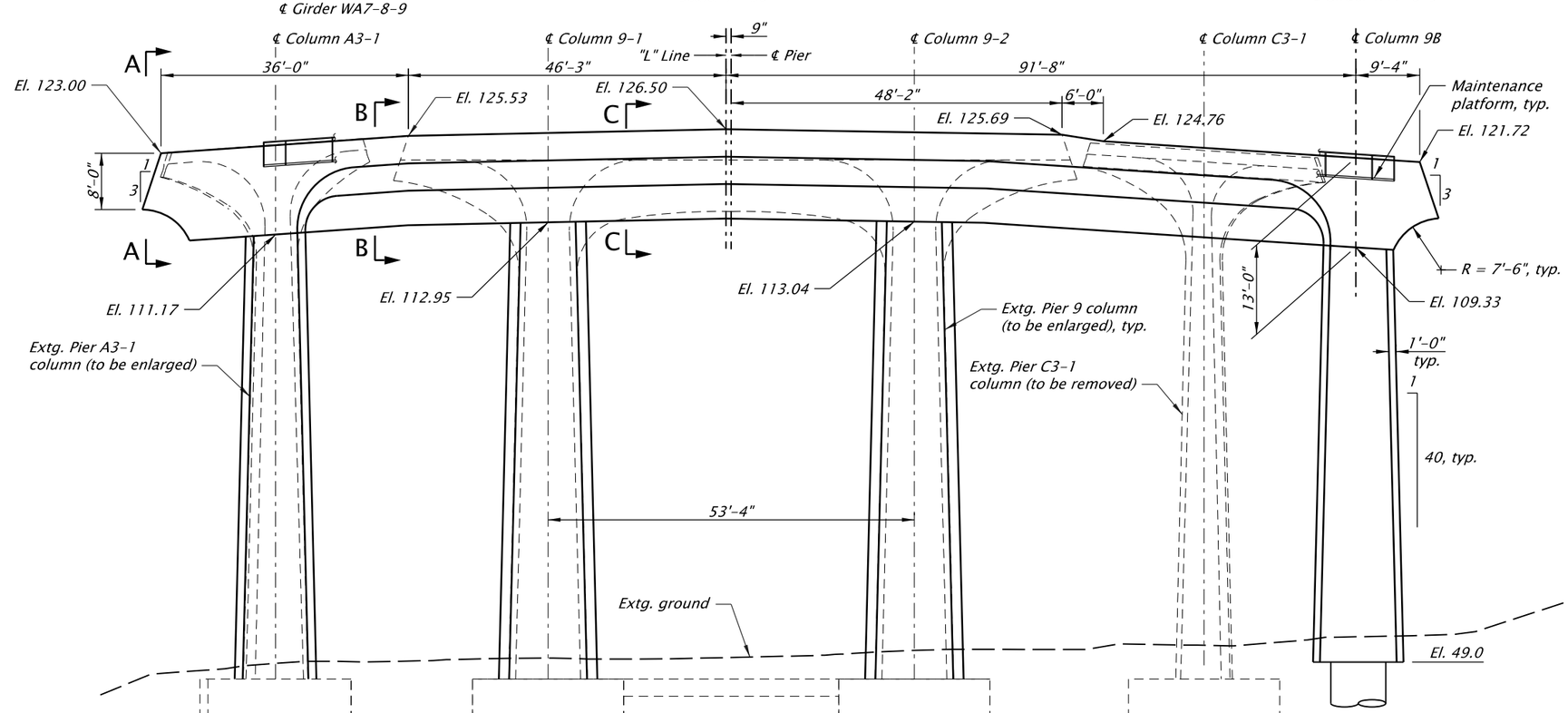

ELEVATION
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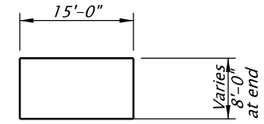

SECTION A-A
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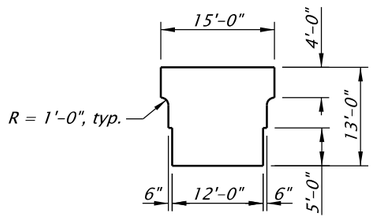
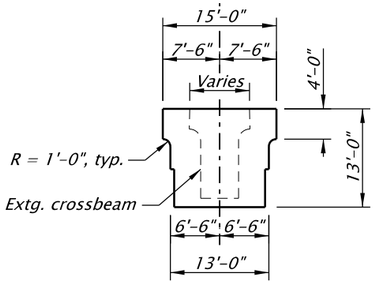


SECTION B-B
Scale: 1"=20'



SECTION C-C
Scale: 1"=20'

For accompanied by drawings, see sht. JBA04

STRUCTURE NO.	09403
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EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Evan Sinn	Reviewer: Jeff Olson
Drafter: Jade Wang	Checker: Quincy Engineering

PIER 9 GEOMETRY PLAN AND ELEVATION — SHEET NO. JBL27

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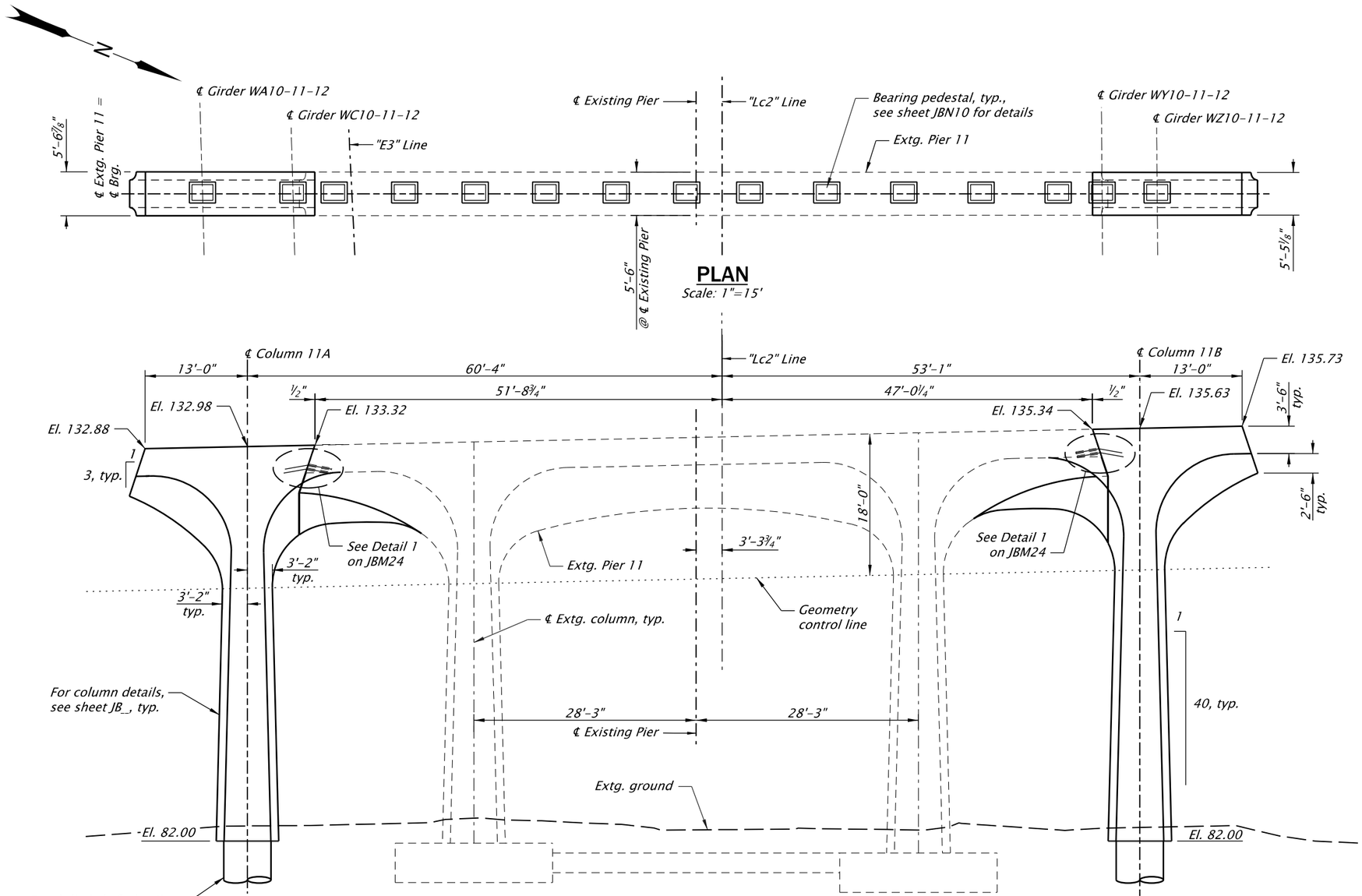

PLAN
Scale: 1"=15'

ELEVATION
Scale: 1"=15'

Note:
See JBP53 for bearing layout.

For accompanied by drawings, see sht. JBA04

STRUCTURE NO.	09403
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HWY: 064 M.P.: 9.03	
COUNTY	Clackamas
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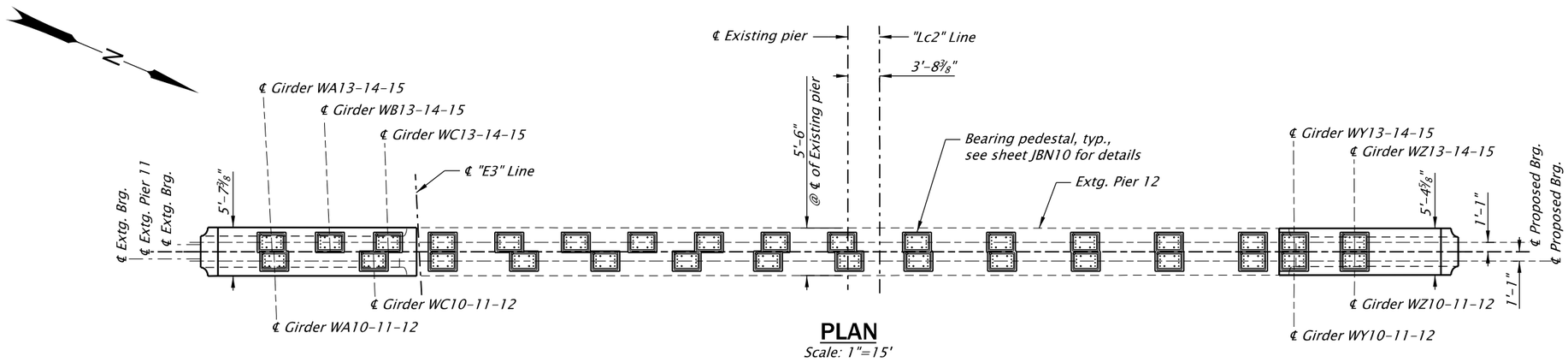
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Kristopher Walker
Drafter: David Massingale
Reviewer: Jeff Olson
Checker: Quincy Engineering

PIER 11 GEOMETRY PLAN AND ELEVATION

SHEET NO. JBM13



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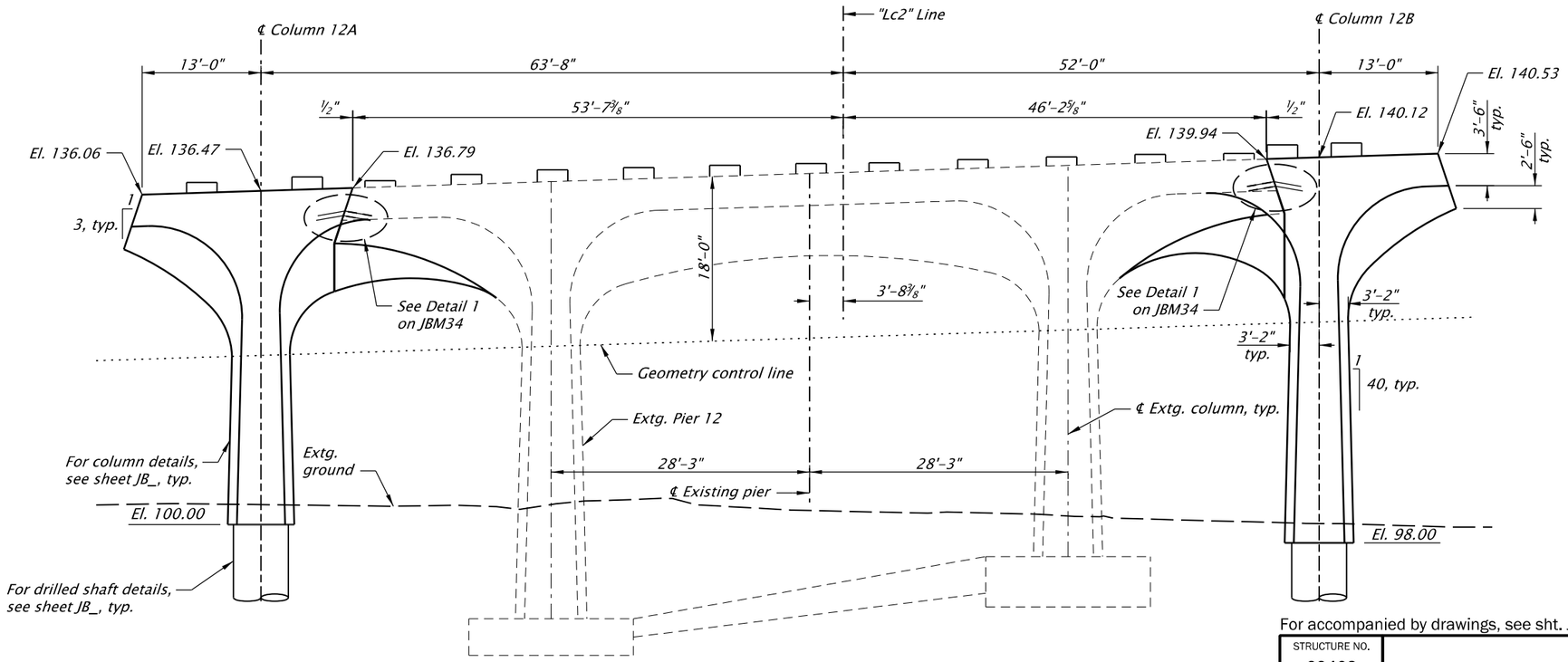

ELEVATION
Scale: 1"=15'

Note:

See JBP56 for bearing layout.

For accompanied by drawings, see sht. JBA04

STRUCTURE NO.	09403
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EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Kristopher Walker
Drafter: David Massingale
Reviewer: Jeff Olson
Checker: Quincy Engineering

PIER 12 GEOMETRY PLAN AND ELEVATION

SHEET NO. JBM20

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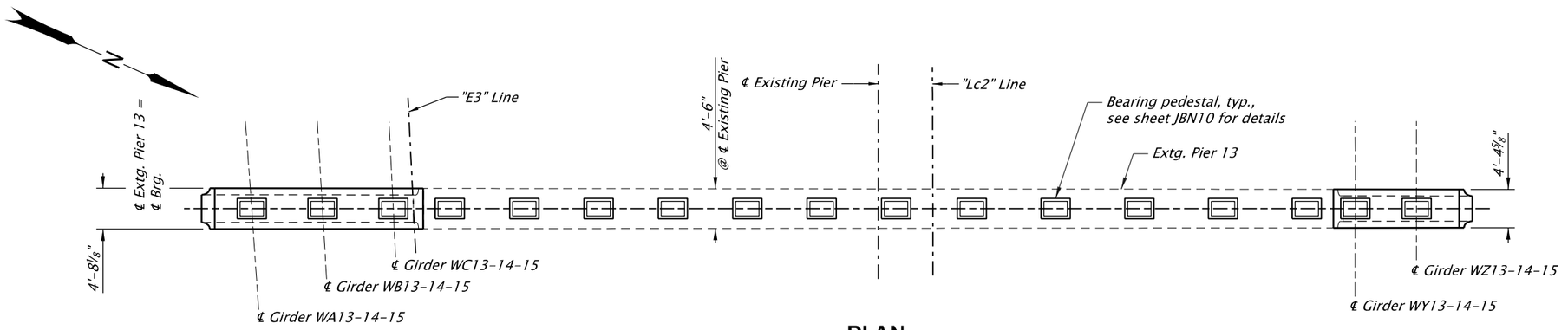

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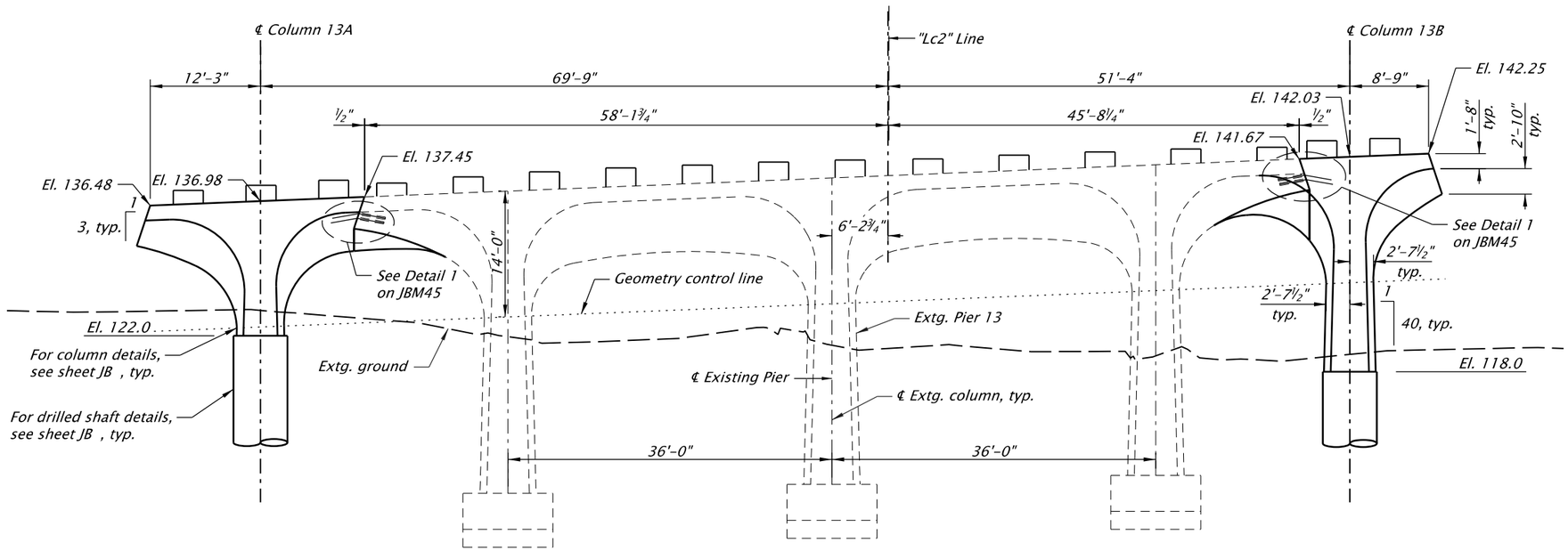

ELEVATION
Scale: 1"=15'

For accompanied by drawings, see sht. JBA04

Note:
See JBP59 for bearing layout.

STRUCTURE NO.	09403
BDS DWG NO.	
CALC. BOOK	
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M.P.: 9.03	
COUNTY	Clackamas
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WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

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Drafter: David Massingale | Checker: Quincy Engineering

PIER 13 GEOMETRY PLAN AND ELEVATION

SHEET NO. JBM27

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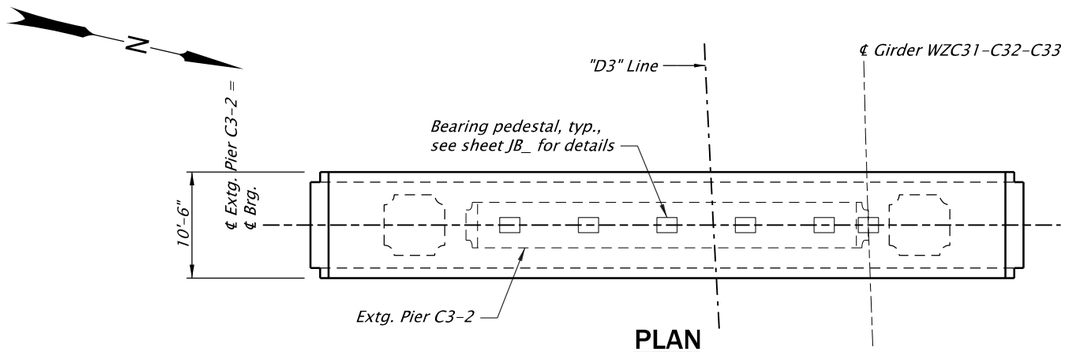

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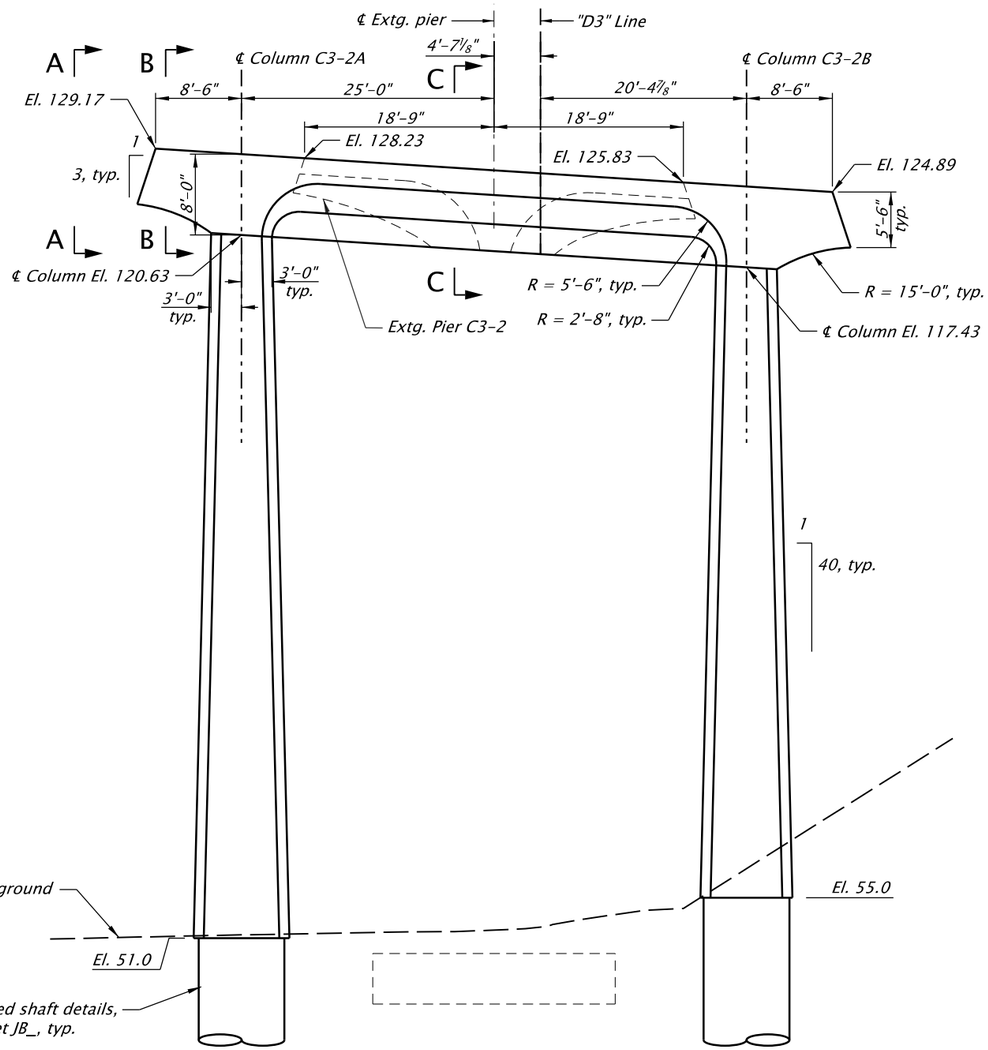
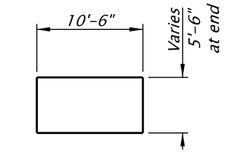
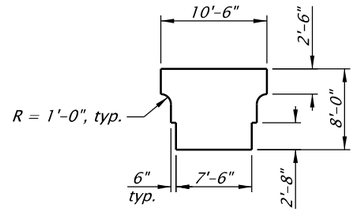


ELEVATION
Scale: 1"=15'



SECTION A-A
Scale: 1"=15'



SECTION B-B
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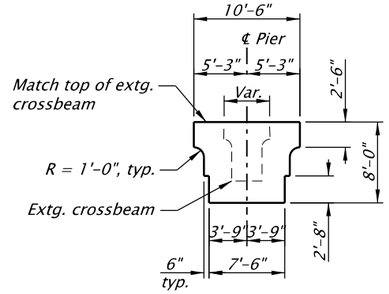

SECTION C-C
Scale: 1"=15'

Note:
For bearing layout, see JBP68.

For accompanied by drawings, see sht. JBA04

STRUCTURE NO.	09403
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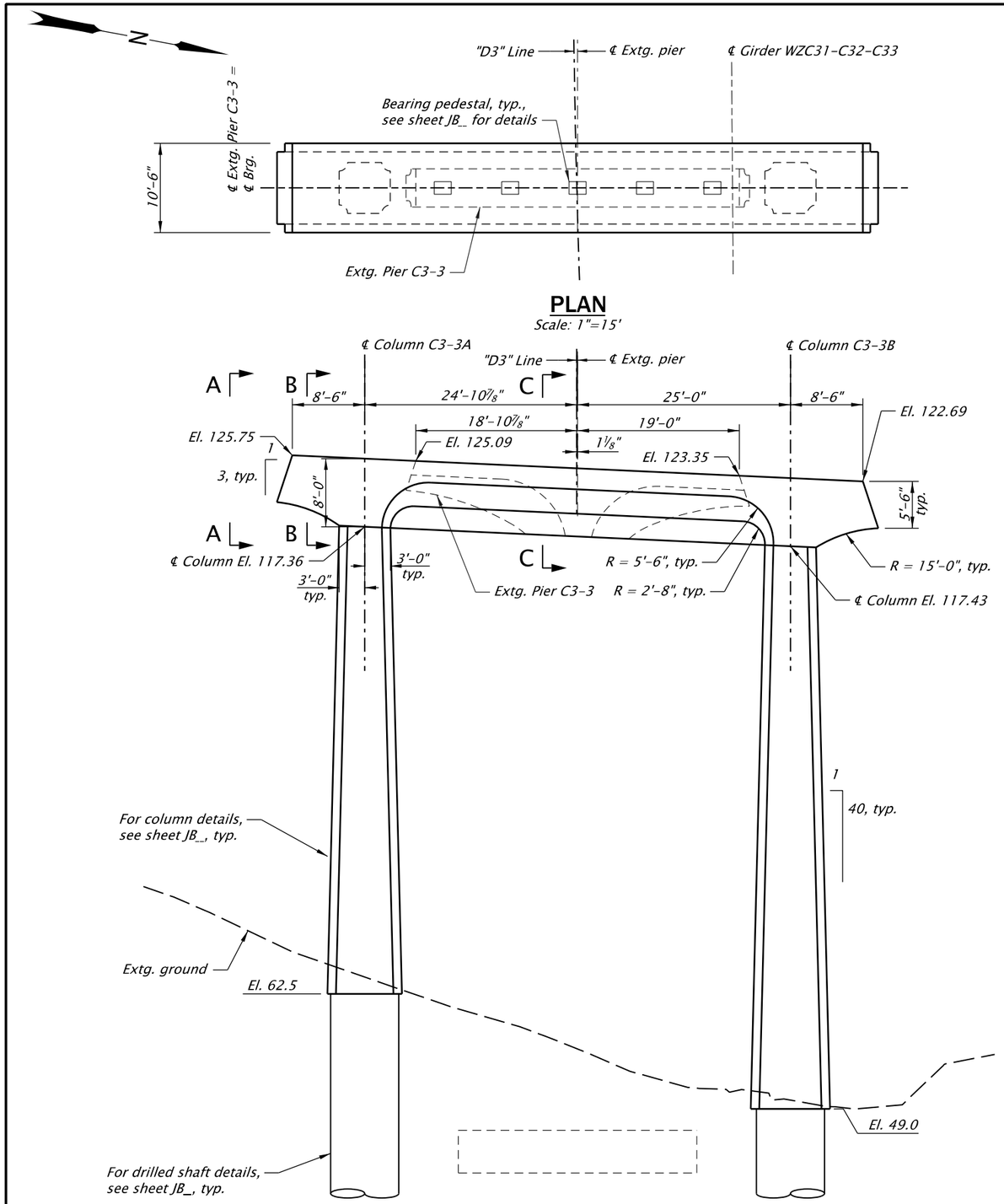
WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Kristopher Walker
Drafter: David Massingale
Reviewer: Jeff Olson
Checker: Quincy Engineering

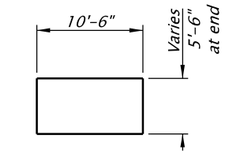
PIER C3-2 GEOMETRY PLAN AND ELEVATION

SHEET NO. JBN01

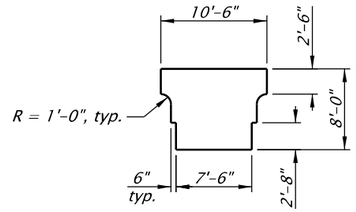


PLAN
Scale: 1"=15'

ELEVATION
Scale: 1"=15'



SECTION A-A
Scale: 1"=15'



SECTION B-B
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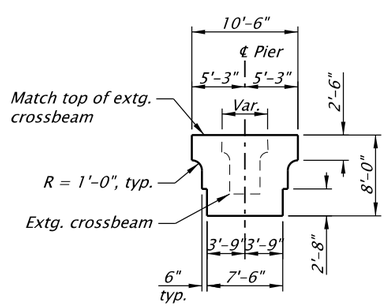

SECTION C-C
Scale: 1"=15'

Note:
For bearing layout, see JBP68.

For accompanied by drawings, see sht. JBA04

STRUCTURE NO.	09403
BDS DWG NO.	
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WILLAMETTE R & HWYS 1E & 3, HWY 64 (GEO ABERNETHY)

I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Kristopher Walker
Reviewer: Jeff Olson
Drafter: David Massingale
Checker: Quincy Engineering

PIER C3-3 GEOMETRY PLAN AND ELEVATION

SHEET NO. JBN06