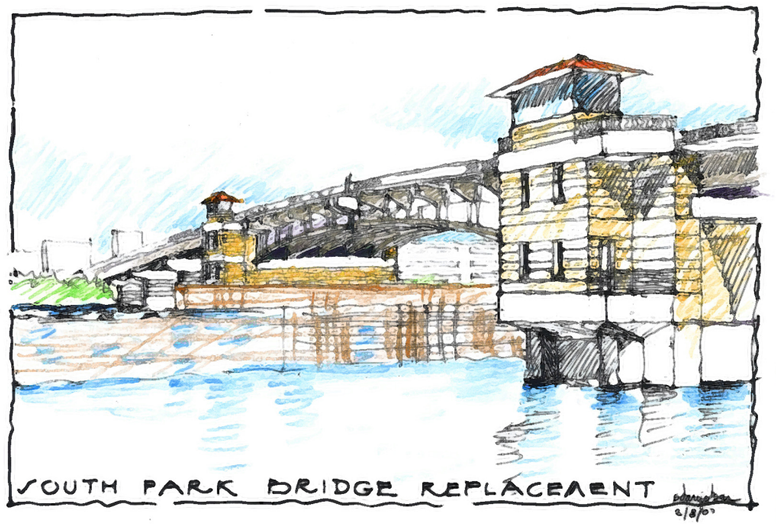
South Park Bridge Replacement
Volume 2: Preliminary Design Plans

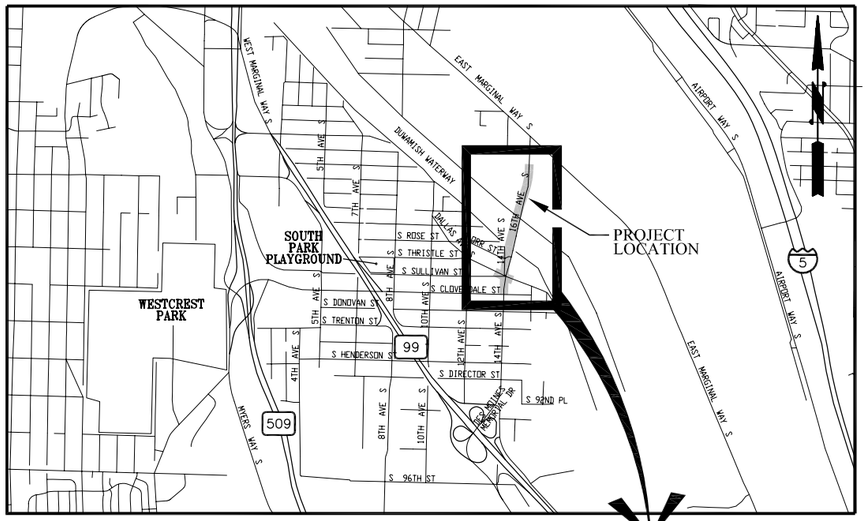


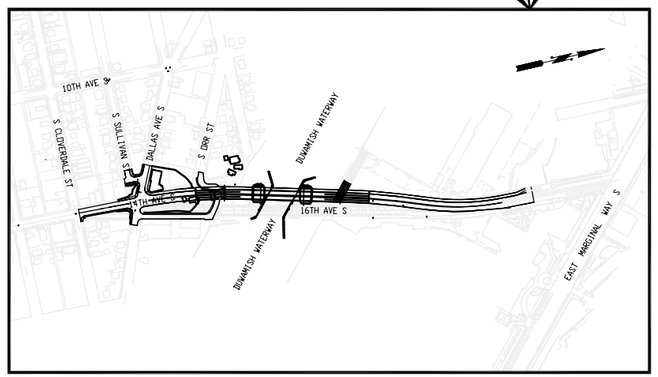
Prepared for: King County

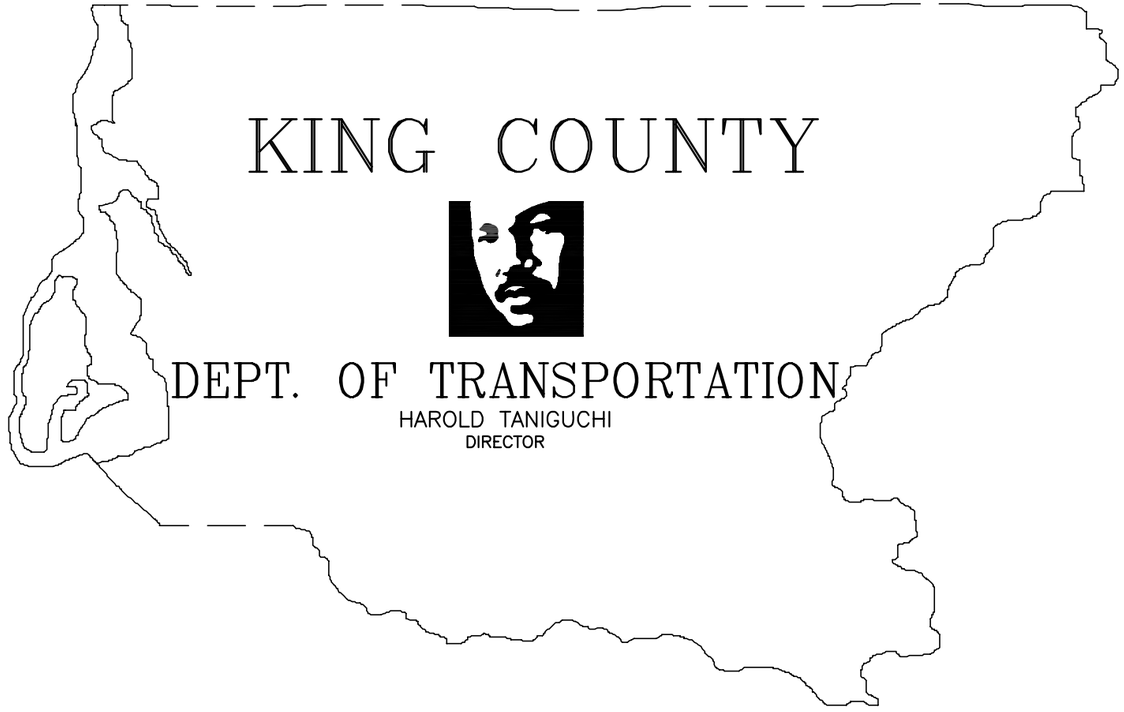
Prepared by: **PB Americas, Inc.**
Shannon & Wilson, Inc.
Stafford Bandlow Engineering, Inc.
Lin and Associates, Inc.

August 2007

VICINITY MAP







KING COUNTY

DEPT. OF TRANSPORTATION

HAROLD TANIGUCHI
DIRECTOR

SOUTH PARK BRIDGE #3179 REPLACEMENT

PRELIMINARY
NOT FOR CONSTRUCTION

INDEX

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J:\2531757 S Park Movable Br\CADD\CIVIL\SHT\SPK-SHT001.dwg Aug 14, 2007 - 11:20am

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SEATTLE, WA 98104

FED. AID No.

PROJECT No. 300197

SURVEY No. 32-24-4-22

MAINTENANCE DIVISION No.

EINER L. HANDELAND
STATE OF WASHINGTON
12968
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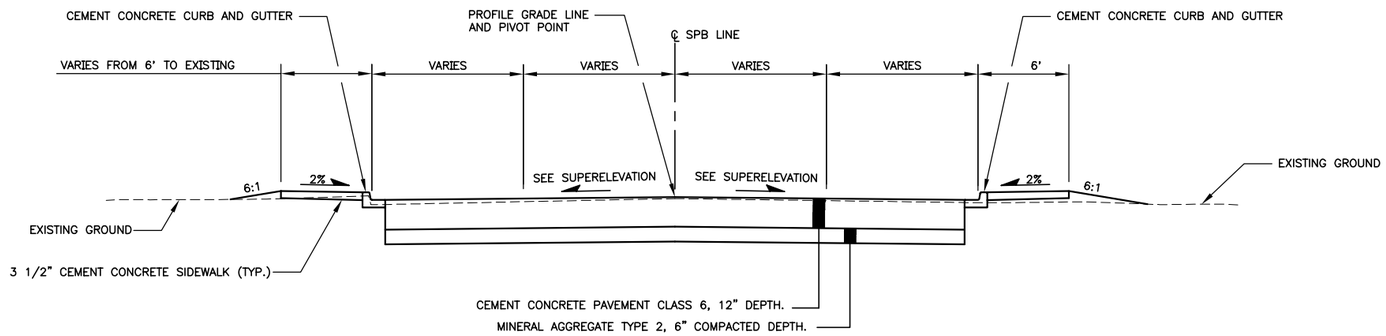
PROFESSIONAL ENGINEER
EXPIRES 01/14/08

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR
SOUTH PARK BRIDGE #3179 REPLACEMENT
COVER, INDEX & VICINITY MAP

King County

SHEET 1 OF 59 SHEETS

316-63 (01)



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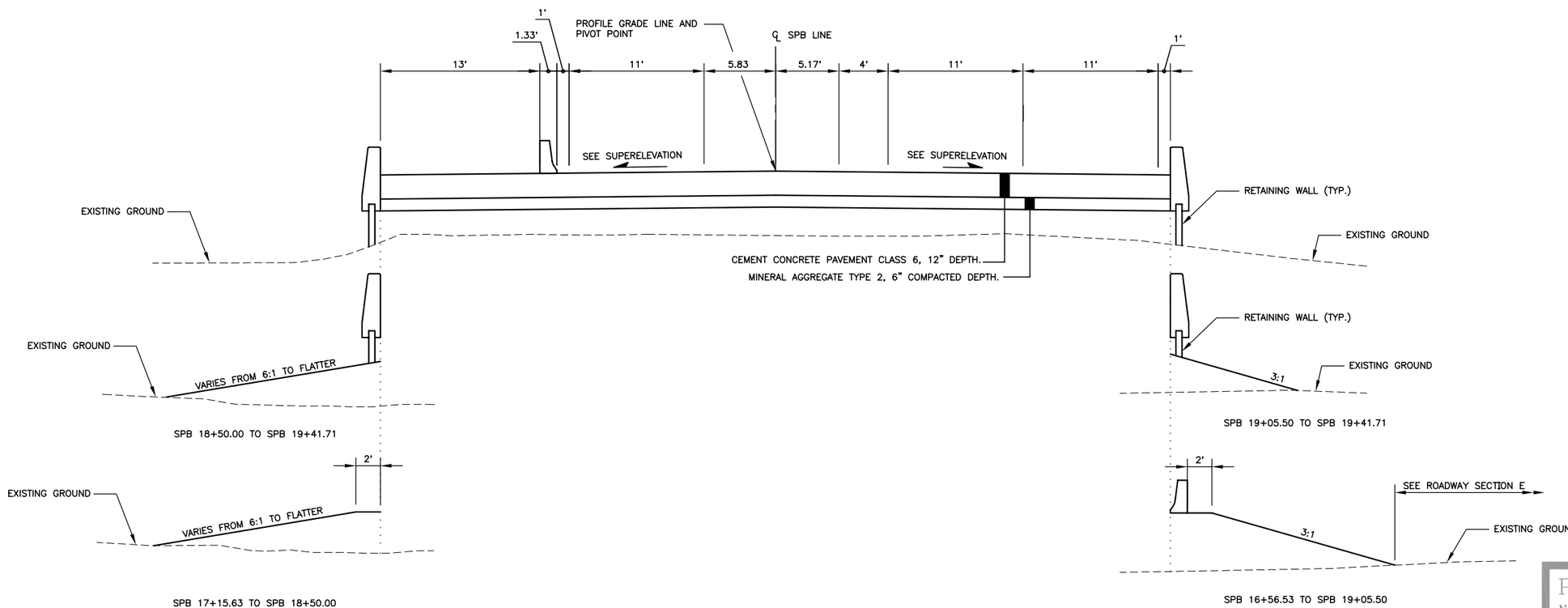
SPB 33+75.00 TO SPB 37+30.00



TYPICAL ROADWAY SECTION B

NTS
SPB LINE
SPB 16+50.00 TO SPB 19+41.71
SPB 28+60.33 TO SPB 33+75.00

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CALL 2 WORKING DAYS BEFORE YOU DIG
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(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

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STATE OF WASHINGTON
43216
REGISTERED PROFESSIONAL ENGINEER
EXPIRES 10/30/07

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HAROLD TANIGUCHI, DIRECTOR
SOUTH PARK BRIDGE #3179
REPLACEMENT
TYPICAL ROADWAY SECTIONS - 1

King County

SHEET 2 OF 59 SHEETS

316-63 (02)

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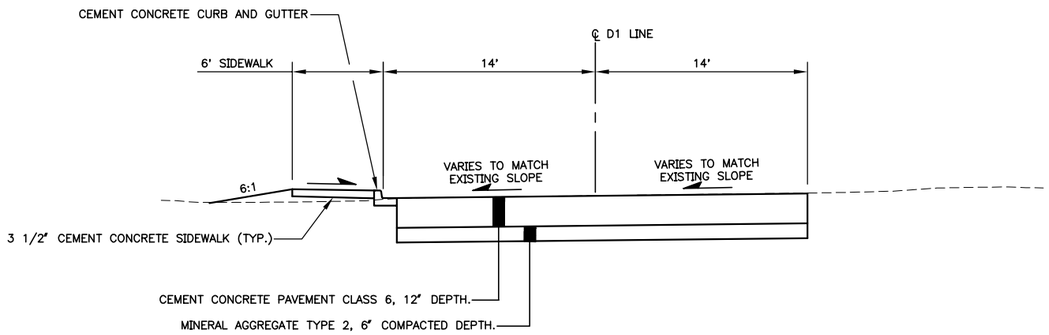

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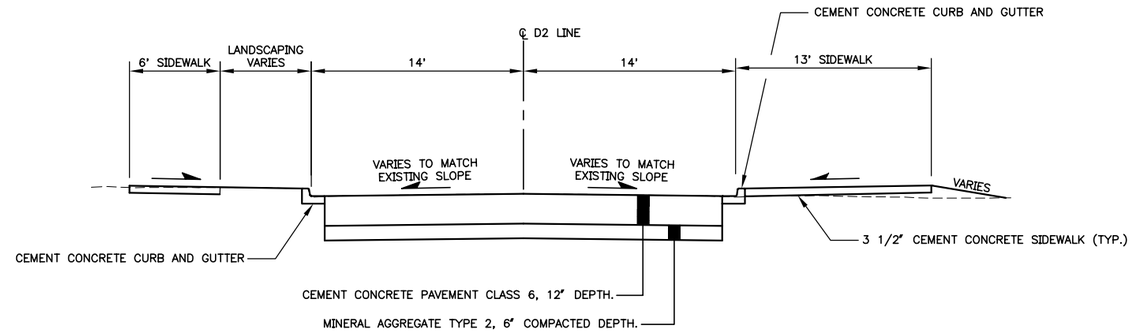
NTS
D1 LINE



TYPICAL ROADWAY SECTION D

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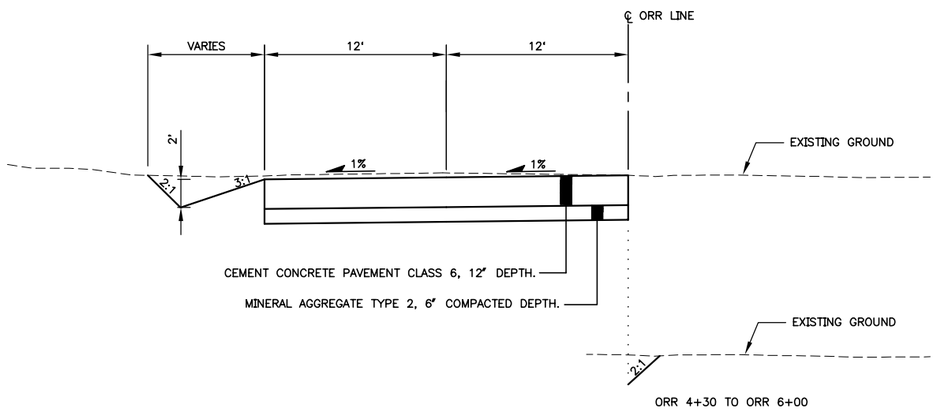
D2 LINE



TYPICAL ROADWAY SECTION E

NTS
ORR LINE

PRELIMINARY
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SUPERVISOR:			NUM.	REVISION	BY / DATE

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KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR

SOUTH PARK BRIDGE #3179 REPLACEMENT

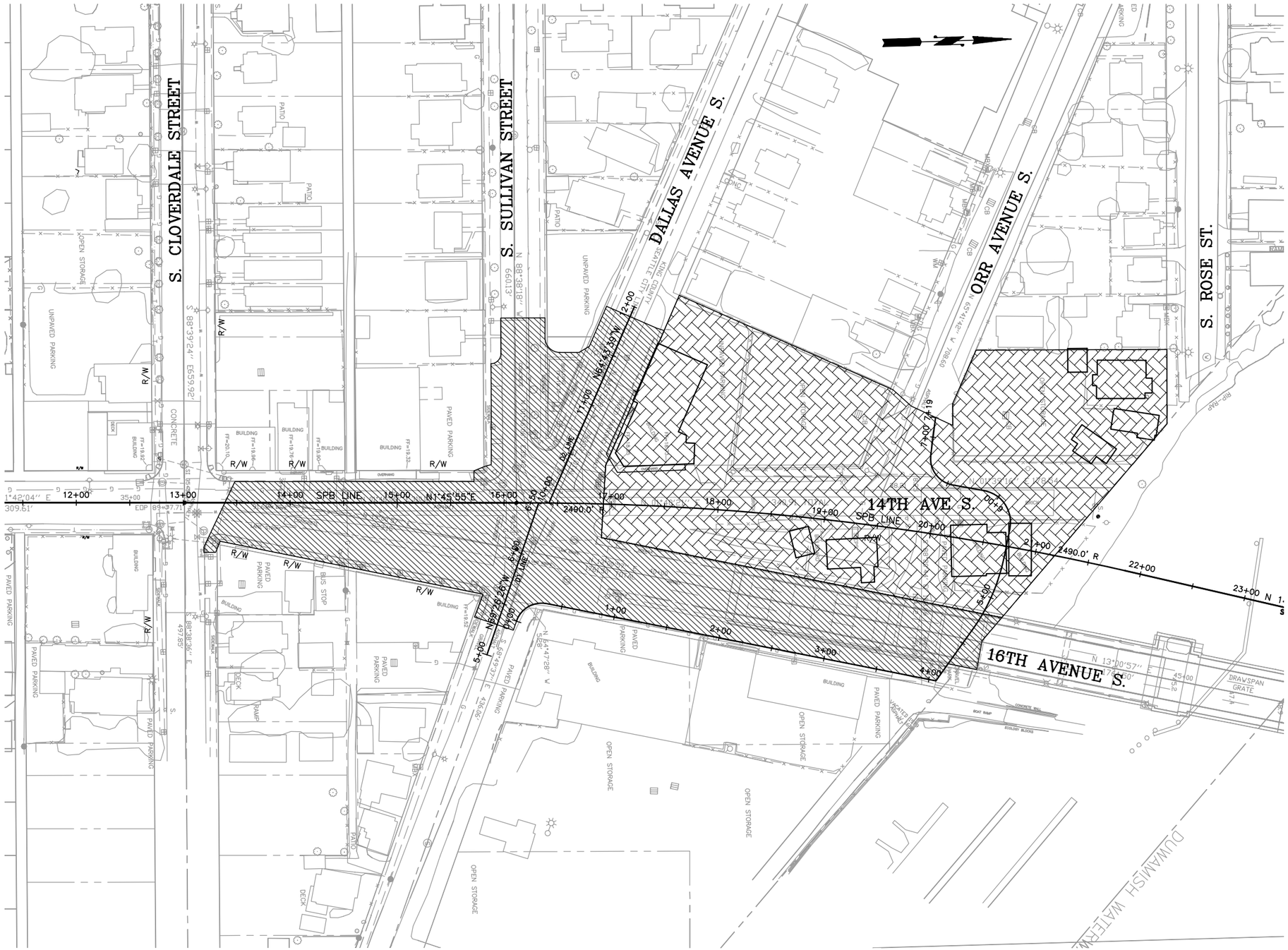
TYPICAL ROADWAY SECTIONS - 2

King County

SHEET 3 OF 59 SHEETS

316-63 (03)

SEC 32, T24 N, R4 E, WM



STAGING NOTES:

PHASE 1:

1. REMOVE EXISTING CURB, SIDEWALK, ASPHALT AND/OR CONCRETE, SHRUBS, LANDSCAPING AND BUILDINGS AS DIRECTED BY THE ENGINEER.
2. FOR GROUND IMPROVEMENT AREAS, SEE STRUCTURAL CONSTRUCTION STAGING PLANS.
3. 14TH AVE S CLOSED BETWEEN DALLAS AVE S AND ORR AVE S AT START OF CONSTRUCTION.

PHASE 2:

1. CONSTRUCT NEW BRIDGE. SEE STRUCTURAL CONSTRUCTION STAGING PLANS.

PHASE 3:

1. CONSTRUCT NEW ROADWAY APPROACH.

PHASE 4:

1. DEMOLISH EXISTING BRIDGE. SEE REMOVAL PLANS.
2. REMOVE EXISTING ROADWAY AND CLEAR AREA UNDER EXISTING BRIDGE.
3. MAINTAIN ACCESS TO ADJACENT PROPERTIES.

PHASE 5:

1. CONSTRUCT ROADWAY TO MATCH EXISTING ROADWAY.

LEGEND:

PHASE 1

PHASE 4

PRELIMINARY
NOT FOR CONSTRUCTION

50 25 0 50 100 150
HORIZ SCALE IN FEET

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FIELD BOOK:					
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SEATTLE, WA 98104

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SURVEY No. 32-24-4-22

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EXPIRES 10/30/07

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HAROLD TANIGUCHI, DIRECTOR

SOUTH PARK BRIDGE #3179 REPLACEMENT

ROADWAY SITE PREP. & STAGING - 1

King County

SHEET 4 OF 59 SHEETS

316-63 (04)

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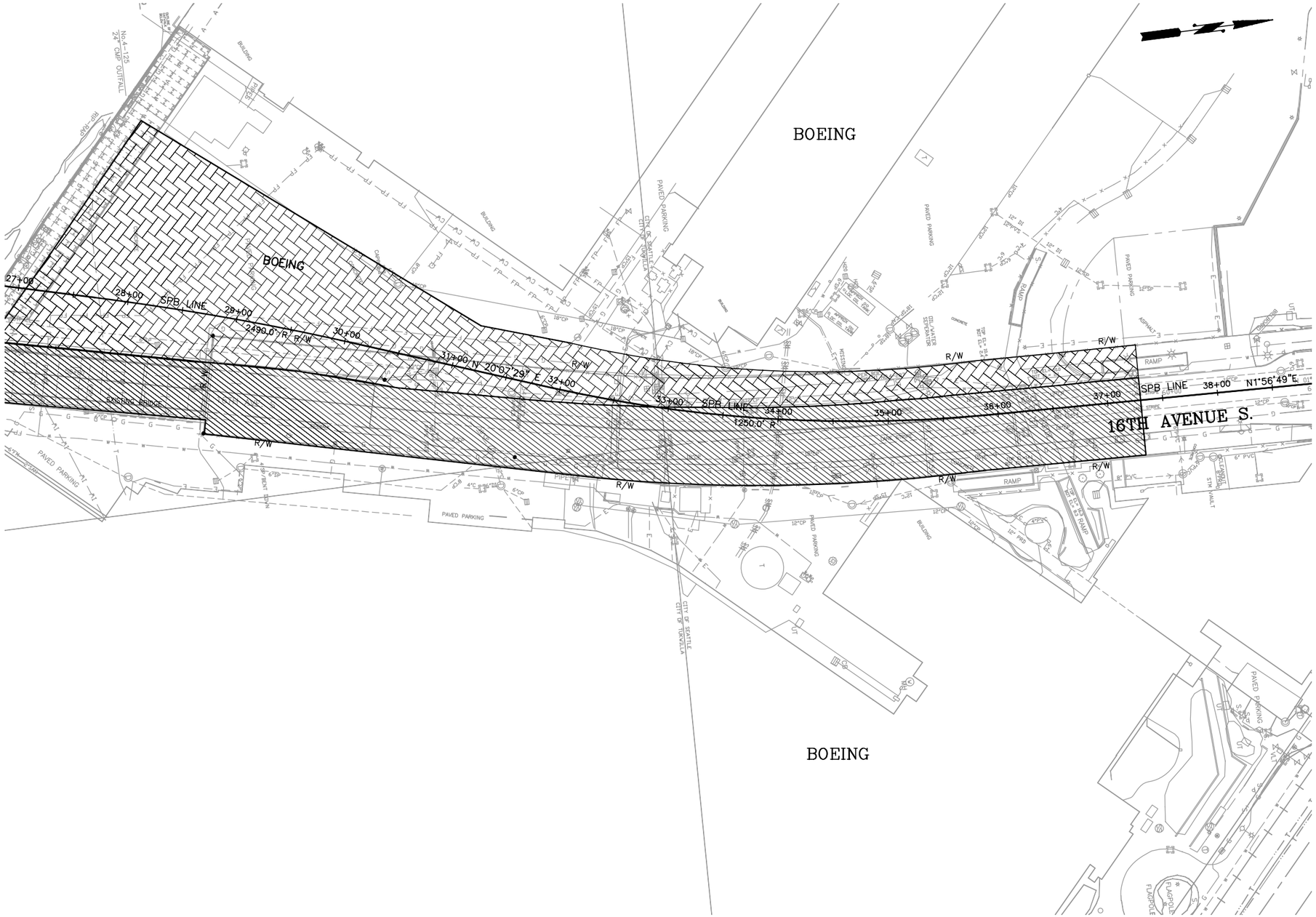

STAGING NOTES:

PHASE 1:

1. REMOVE EXISTING CURB, SIDEWALK, ASPHALT AND/OR CONCRETE, SHRUBS, LANDSCAPING AND BUILDINGS AS DIRECTED BY THE ENGINEER.
2. FOR GROUND IMPROVEMENT AREAS, SEE STRUCTURAL CONSTRUCTION STAGING PLANS.
3. LOCATE STORMWATER MANAGEMENT FACILITIES.

PHASE 2:

1. CONSTRUCT NEW ROADWAY APPROACH.

PHASE 3:

1. CONSTRUCT NEW BRIDGE.
   SEE STRUCTURAL CONSTRUCTION STAGING PLANS.

PHASE 4:

1. DEMOLISH EXISTING BRIDGE. SEE REMOVAL PLANS.
2. REMOVE EXISTING ROADWAY AND CLEAR AREA UNDER EXISTING BRIDGE.
3. MAINTAIN ACCESS TO ADJACENT PROPERTIES.

PHASE 5:

1. CONSTRUCT ROADWAY TO MATCH EXISTING ROADWAY.

LEGEND:

PHASE 1

PHASE 4

PRELIMINARY
NOT FOR CONSTRUCTION

50 25 0 50 100 150
HORIZ SCALE IN FEET

CALL 2 WORKING
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SOUTH PARK BRIDGE #3179
REPLACEMENT

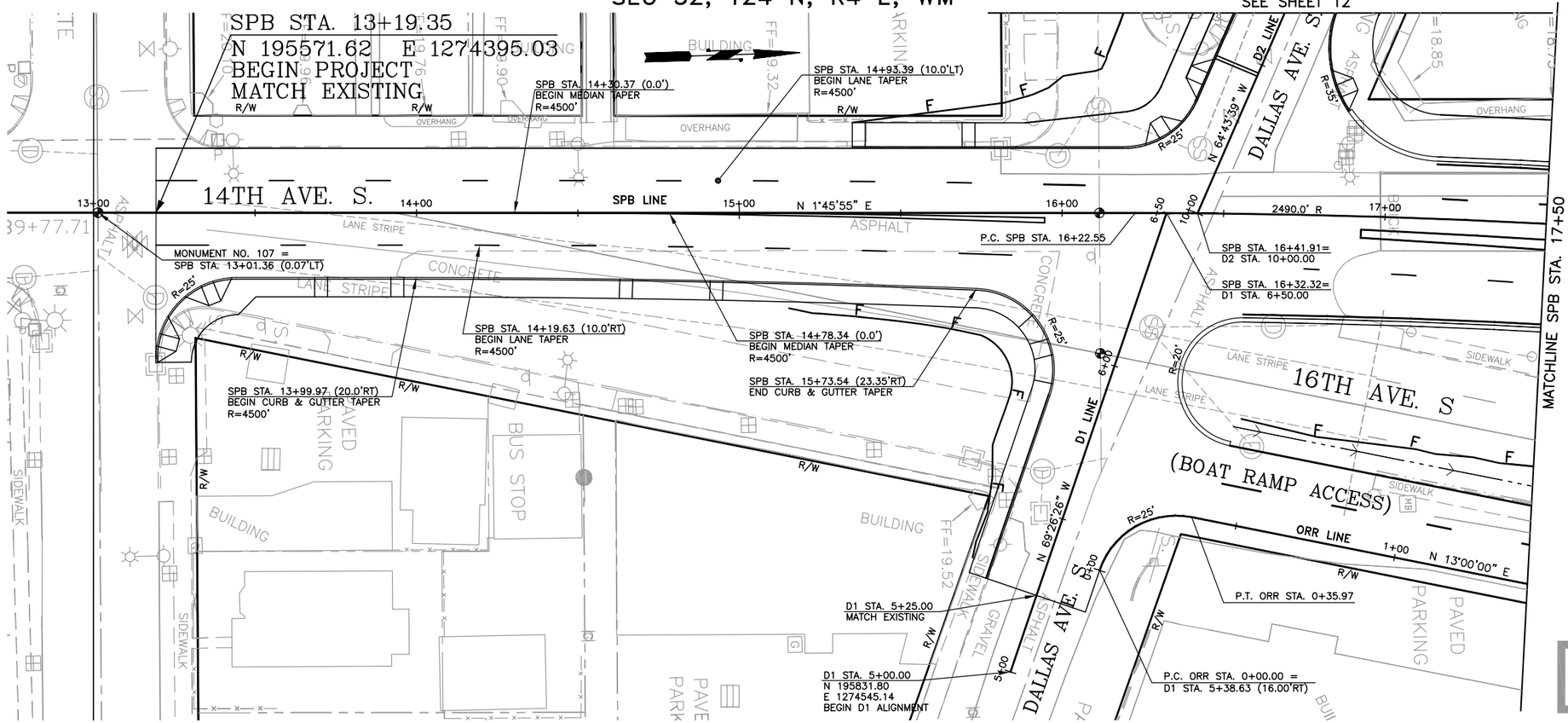
ROADWAY SITE PREP. & STAGING - 2

King County

SHEET 5 OF 59 SHEETS

316-63 (05)

SEC 32, T24 N, R4 E, WM



NOTES:

1. 14TH AVE S CLOSED AT START OF CONSTRUCTION

CURVE DATA

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SPB	19+05.16	12°57'01" RT	2490.00'	282.61'	562.81'
ORR	0+21.90	82°26'26" RT	25.00'	21.90'	35.97'

	PC. STATION
SPB	16+22.55
ORR	0+00.00

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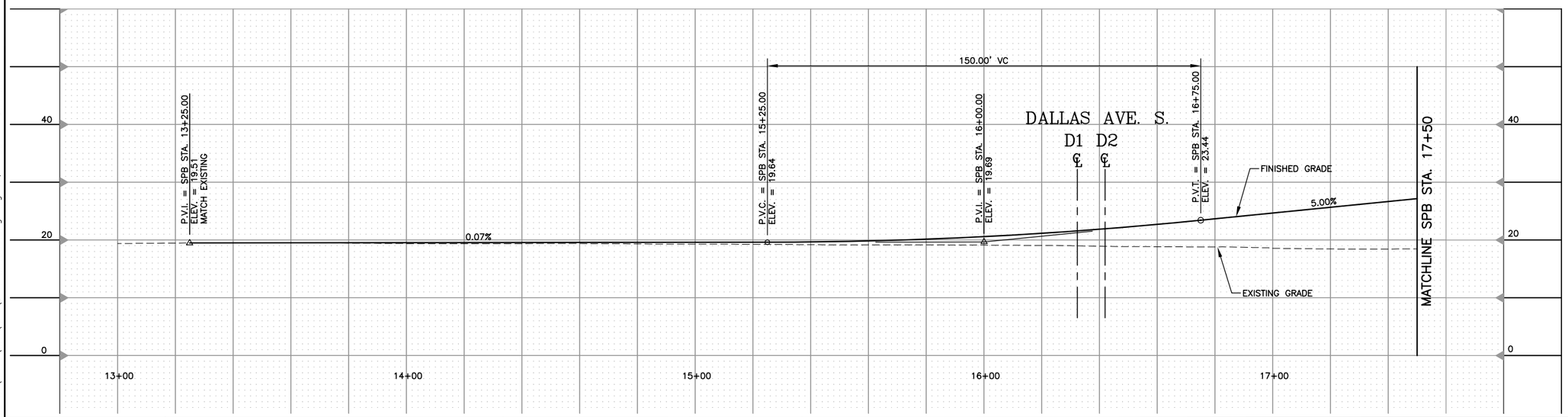
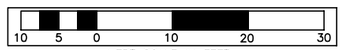
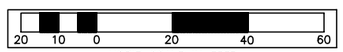


NAVD 88

HORIZONTAL DATUM: NAD 83/91





CALL 2 WORKING DAYS BEFORE YOU DIG
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(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

PRELIMINARY
NOT FOR CONSTRUCTION

FIELD BOOK:					
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SURVEY BASE MAP:					
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PBQD, INC
999 THIRD AVE. #2200
SEATTLE, WA 98104

FED. AID No.

PROJECT No. 300197

SURVEY No. 32-24-4-22

MAINTENANCE DIVISION No.

LEN-FAN KIU
STATE OF WASHINGTON
49216
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 10/30/07

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR

SOUTH PARK BRIDGE #3179 REPLACEMENT

ROADWAY PLAN AND PROFILE – 1
SPB STA 13+00 TO 17+50

King County

SHEET 6 OF 59 SHEETS

316–63 (06)

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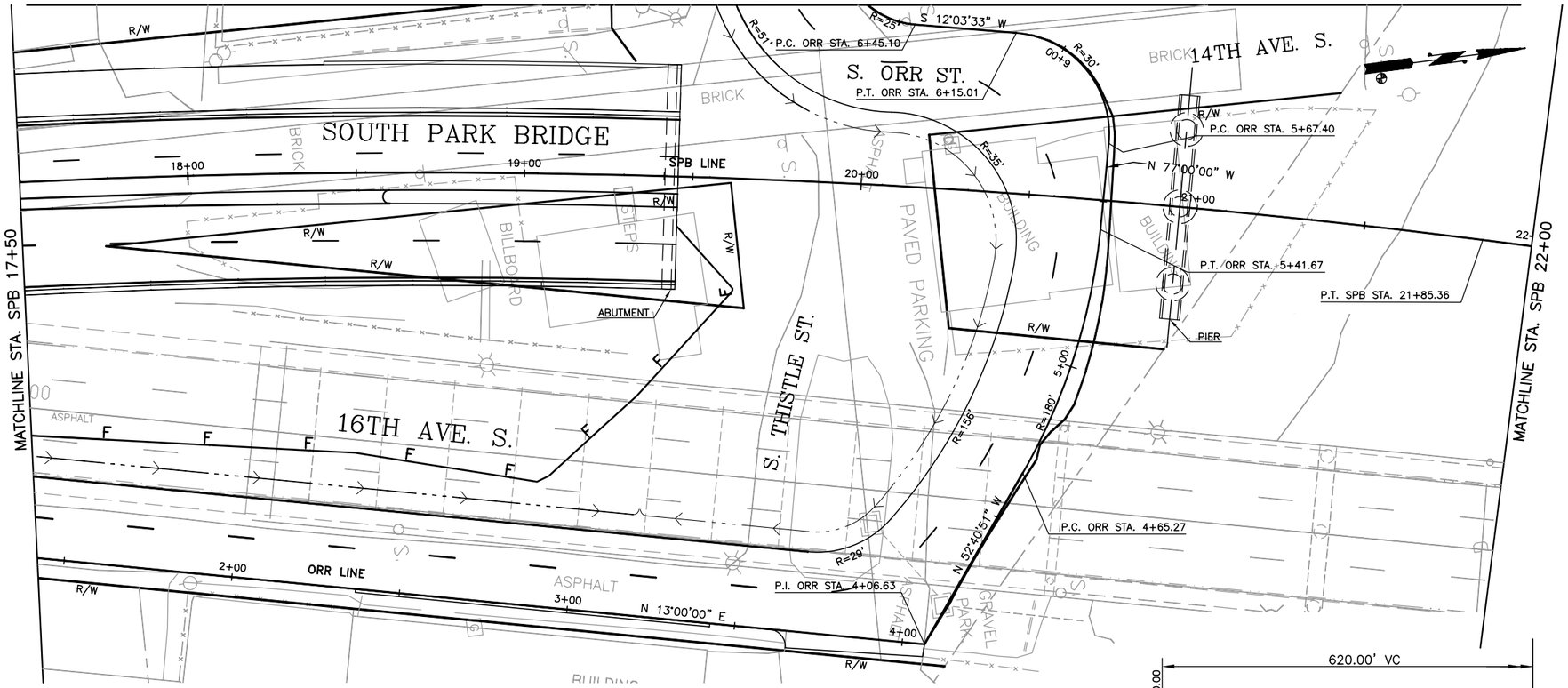
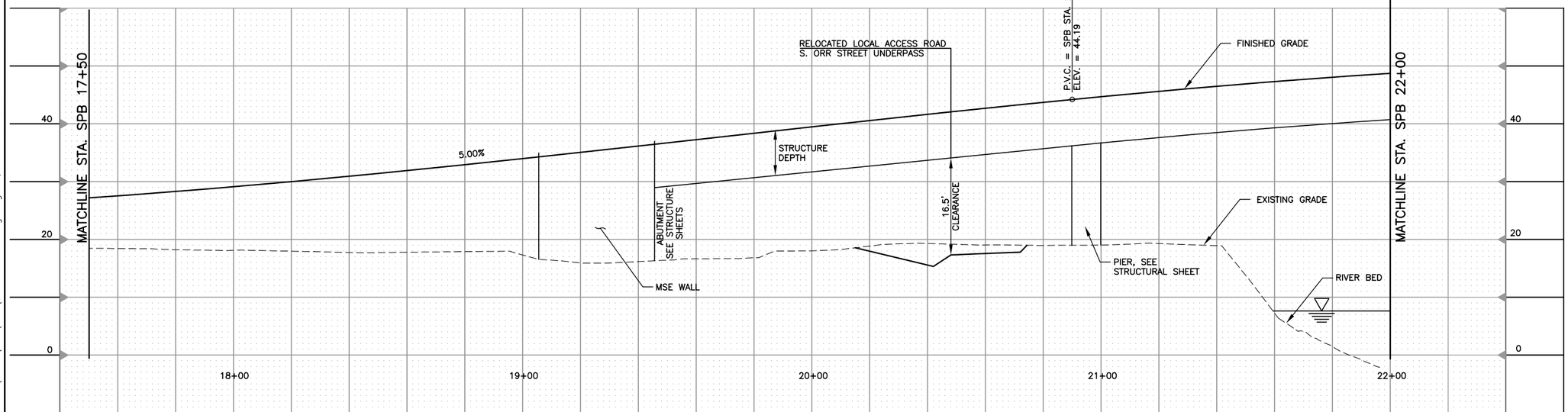
SEC 32, T24 N, R4 E, WM

SEE SHEET 12





NOTES:

1. SEE STRUCTURAL SHEET FOR NEW BRIDGE

CURVE DATA

PI. STATION	Δ	RADIUS	TANGENT	LENGTH
SPB 19+05.16	12°57'01" RT	2490.00'	282.61'	562.81'
ORR 5+04.06	24°19'09" LT	180.00'	38.78'	76.40'
ORR 5+97.89	90°56'27" LT	30.00'	30.50'	47.62'

PC. STATION
SPB 16+22.55
ORR 4+65.27
ORR 5+67.40

PRELIMINARY
NOT FOR CONSTRUCTION

DATUM
NAVD 88

10 5 0 10 20 30
VERT SCALE IN FEET

20 10 0 20 40 60
HORIZ SCALE IN FEET

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MAINTENANCE DIVISION No.

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REGISTERED PROFESSIONAL ENGINEER
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KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR

SOUTH PARK BRIDGE #3179 REPLACEMENT

ROADWAY PLAN AND PROFILE - 2
SPB STA 17+50 TO 22+00

King County

SHEET 7 OF 59 SHEETS

316-63 (07)

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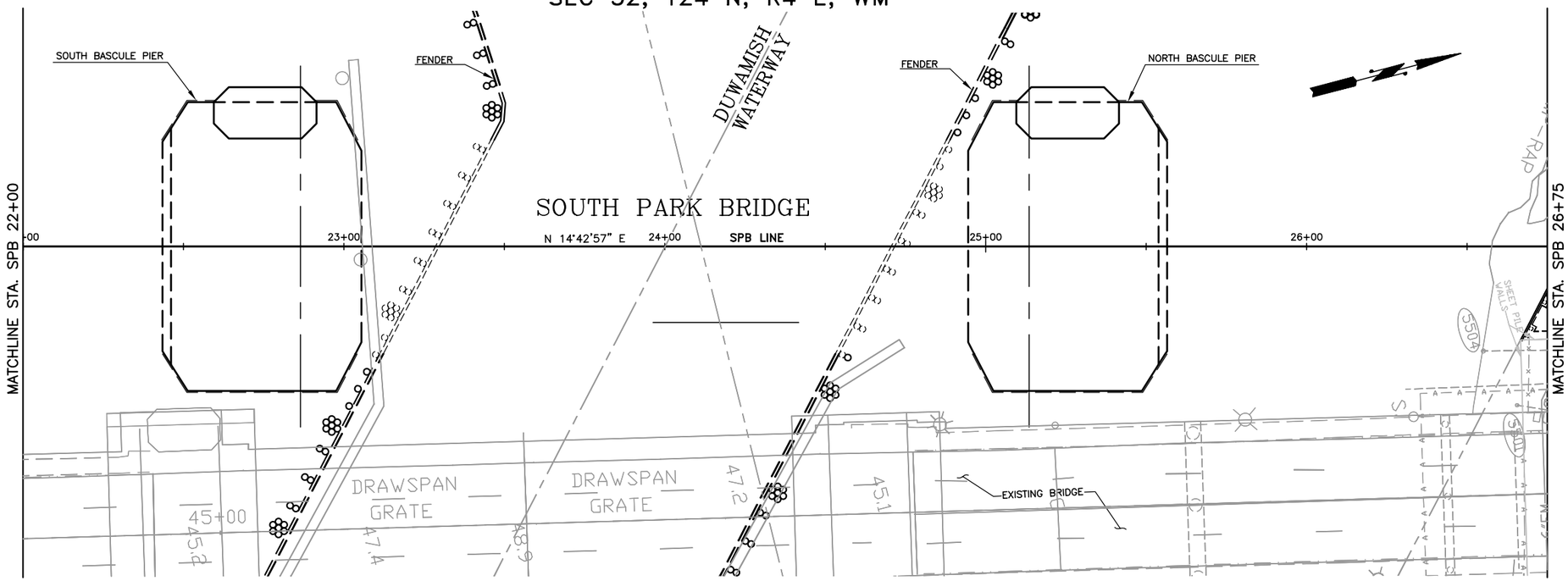
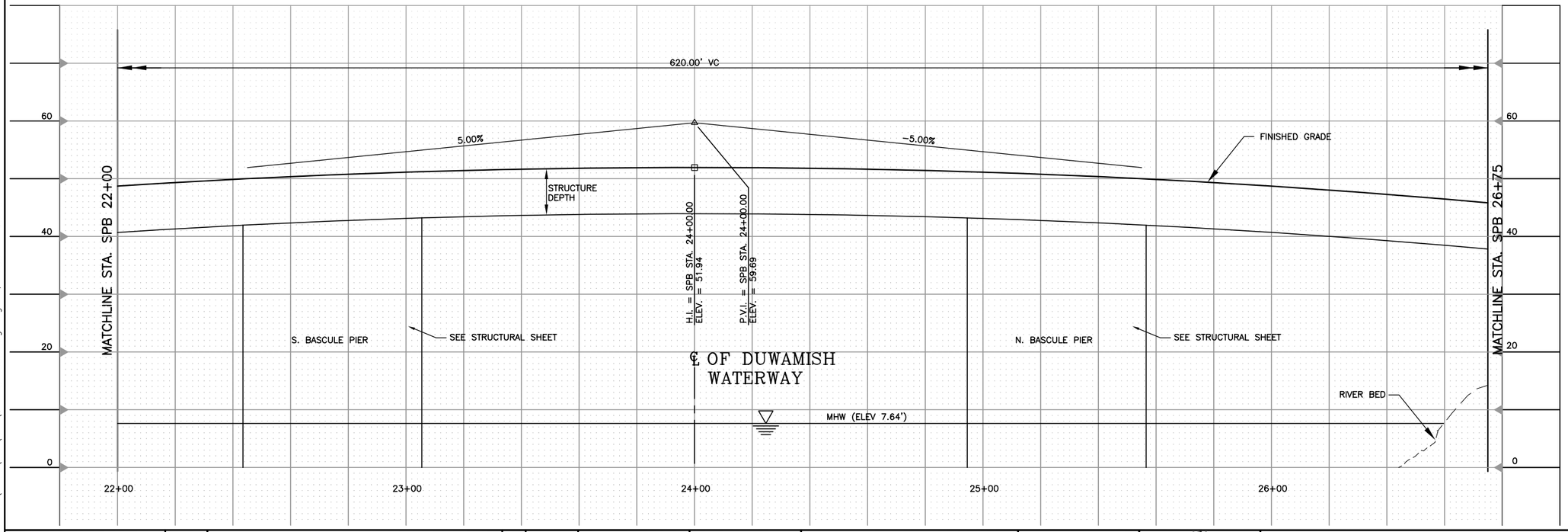


NOTES:

1. SEE STRUCTURAL SHEET FOR NEW BRIDGE



PRELIMINARY
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DATUM
NAVD 88

10 5 0 10 20 30
VERT SCALE IN FEET

20 10 0 20 40 60
HORIZ SCALE IN FEET

CALL 2 WORKING DAYS BEFORE YOU DIG
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(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

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SOUTH PARK BRIDGE #3179 REPLACEMENT

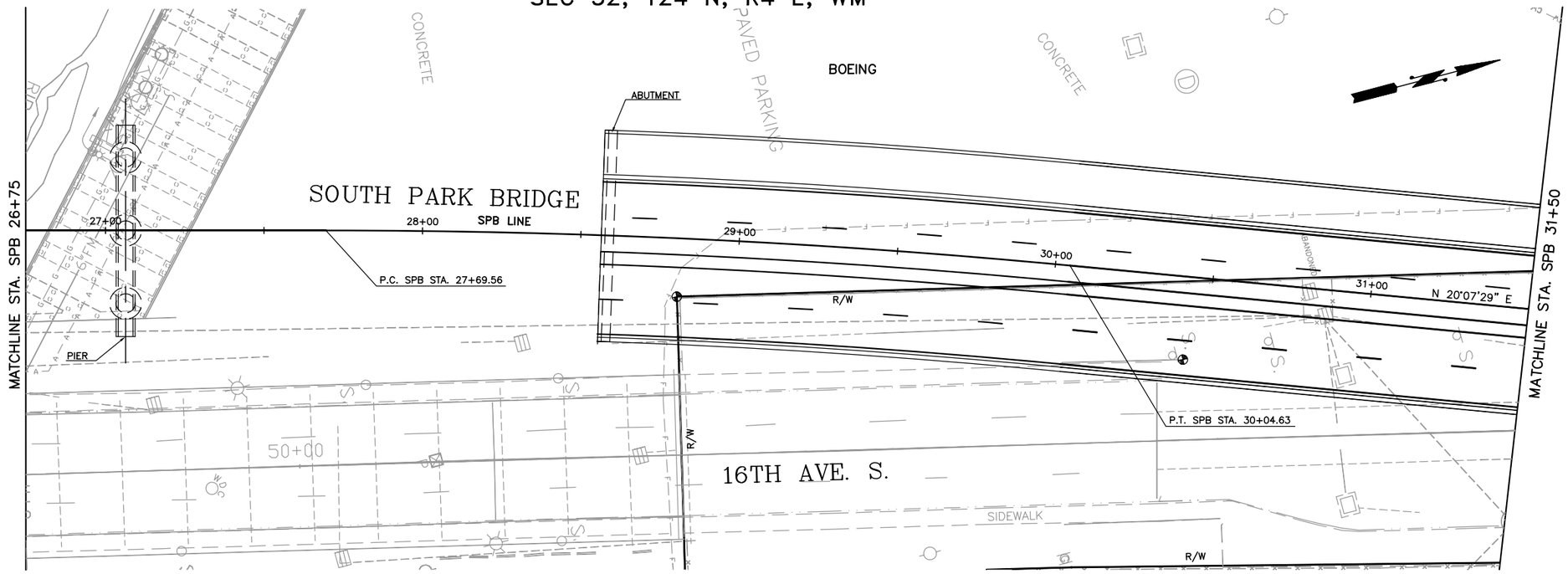
ROADWAY PLAN AND PROFILE - 3
SPB STA 22+00 TO 26+75

King County

SHEET 8 OF 59 SHEETS

316-63 (08)

SEC 32, T24 N, R4 E, WM



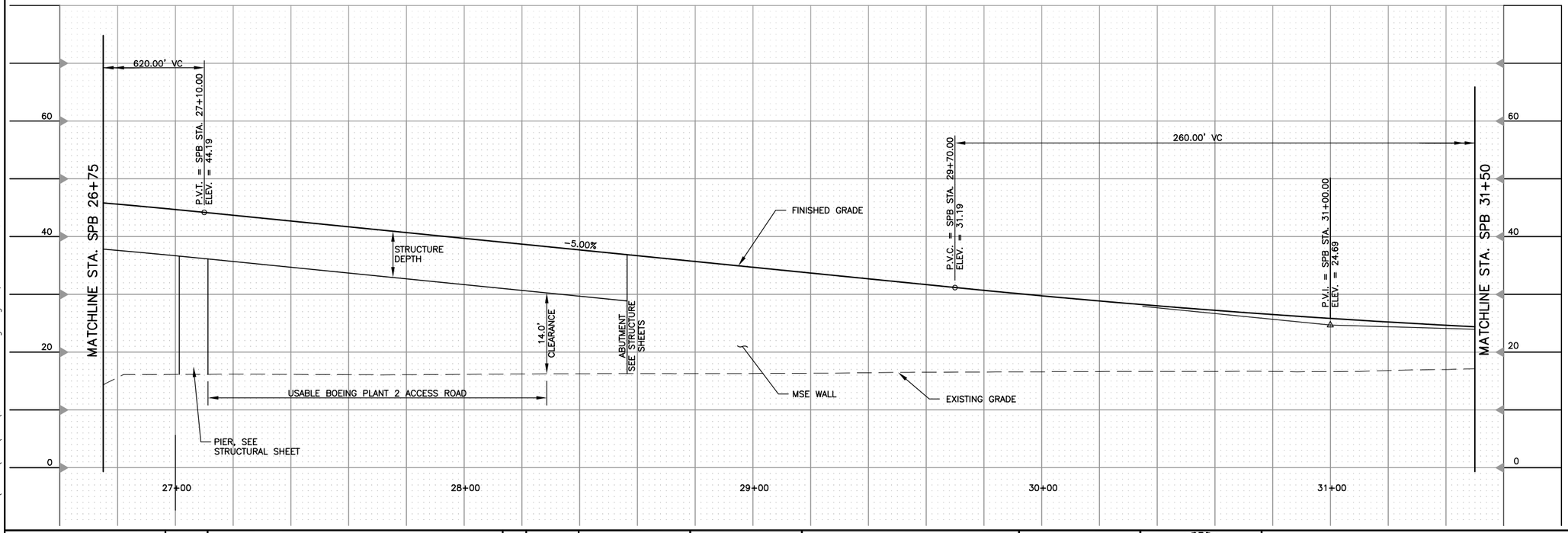
NOTES:

1. SEE STRUCTURAL SHEET FOR NEW BRIDGE

PRELIMINARY
NOT FOR CONSTRUCTION

CURVE DATA

PC. STATION	PI. STATION	Δ	RADIUS	TANGENT	LENGTH
SPB 27+69.56	SPB 28+87.19	5°24'33" RT	2490.00'	117.62'	235.07'



DATUM
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VERT SCALE IN FEET

20 10 0 20 40 60
HORIZ SCALE IN FEET

CALL 2 WORKING DAYS BEFORE YOU DIG
1-800-424-5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

J:\2531757 S Park Movable Br\CADD\CIV\SHT\SPK-SHT009.dwg Aug 15, 2007 - 9:25am

FIELD BOOK:			
SURVEYED:			
SURVEY BASE MAP:			
DESIGN ENTERED:	BRP	06/2007	
DESIGNED	YR	06/2007	
CHECKED:	EIH	06/2007	
SUPERVISOR:			

NUM.	REVISION	BY	DATE

PBQD, INC 100 YEARS
999 THIRD AVE. #2200
SEATTLE, WA 98104

FED. AID No.
PROJECT No. 300197
SURVEY No. 32-24-4-22
MAINTENANCE DIVISION No.

FEA-FAN RU
STATE OF WASHINGTON
43216
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 10/30/07

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR

SOUTH PARK BRIDGE #3179 REPLACEMENT

ROADWAY PLAN AND PROFILE - 4
SPB STA 26+75 TO 31+50

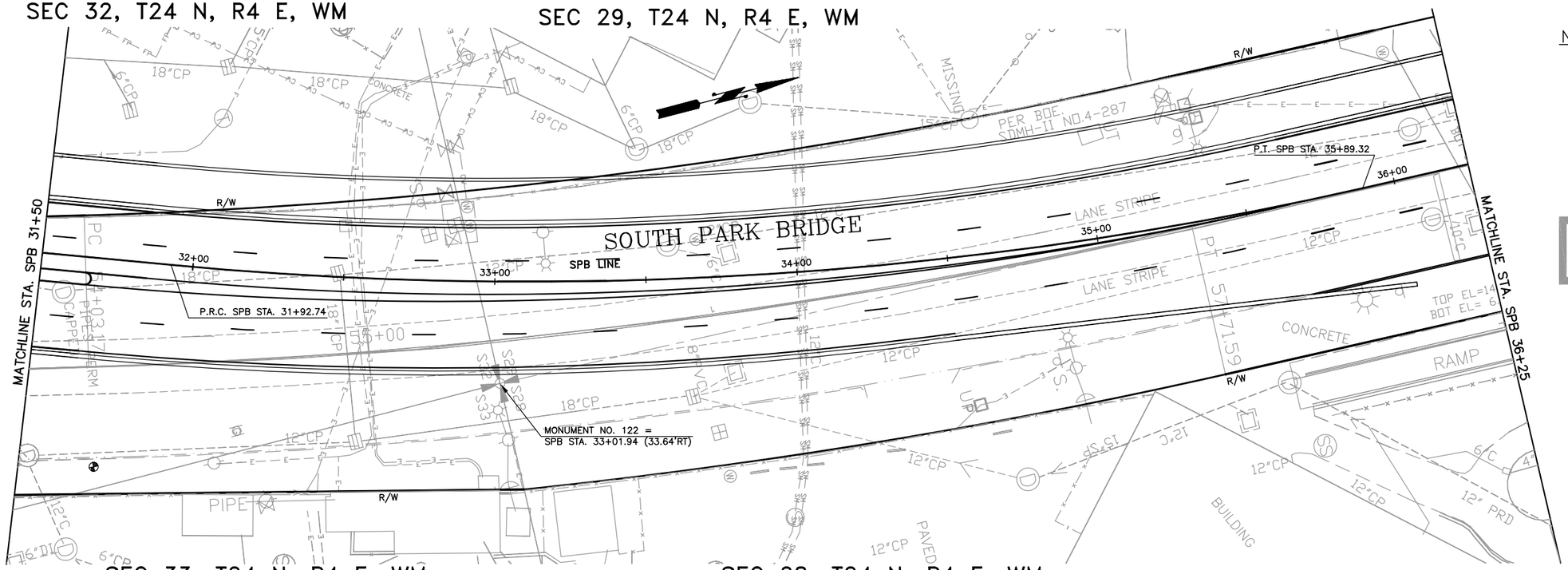
King County

SHEET 9 OF 59 SHEETS

316-63 (09)

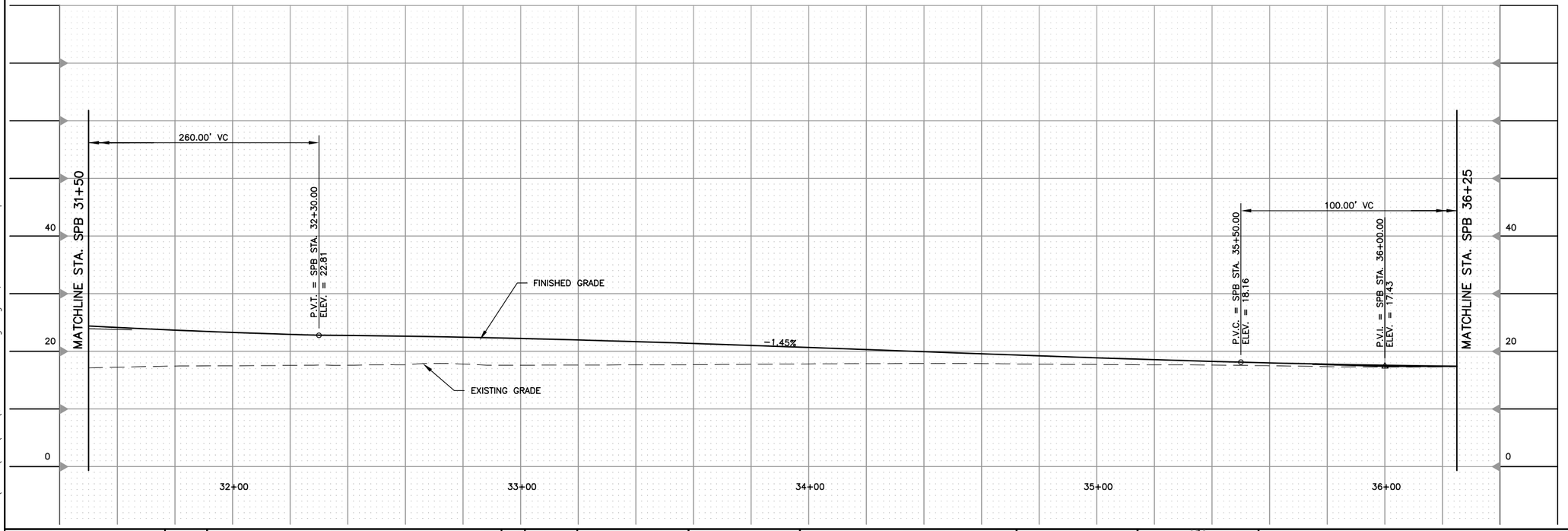
SEC 32, T24 N, R4 E, WM

SEC 29, T24 N, R4 E, WM



SEC 33, T24 N, R4 E, WM

SEC 28, T24 N, R4 E, WM



NOTES:

PRELIMINARY
NOT FOR CONSTRUCTION

MONUMENT NO.	NORTHING	EASTING	LOCATION
122	197491.66	1274833.87	MIC 1/2"DK/WPUCH

CURVE DATA

PC. STATION	PI. STATION	Δ	RADIUS	TANGENT	LENGTH
SPB 27+69.56	SPB 28+87.19	5°24'33" RT	2490.00'	117.62'	235.07'
SPB 31+92.74	SPB 33+92.71	18°10'40" LT	1250.00'	199.97'	396.58'

DATUM

NAVD 88

10 5 0 10 20 30
VERT SCALE IN FEET

20 10 0 20 40 60
HORIZ SCALE IN FEET

CALL 2 WORKING DAYS BEFORE YOU DIG
1-800-424-5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

J:\2531757 S Park Movable Br\CADD\CIV\SHT\SPK-SHT010.dwg Aug 14, 2007 - 1:53pm

FIELD BOOK:			
SURVEYED:			
SURVEY BASE MAP:			
DESIGN ENTERED:	BRP	06/2007	
DESIGNED	YR	06/2007	
CHECKED:	EIH	06/2007	
SUPERVISOR:			

NUM.	REVISION	BY	DATE

PBQD, INC 100 YEARS
999 THIRD AVE. #2200
SEATTLE, WA 98104

FED. AID No.

PROJECT No. 300197

SURVEY No. 32-24-4-22

MAINTENANCE DIVISION No.

YEA-FAN RU
STATE OF WASHINGTON
43216
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 10/30/07

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR

SOUTH PARK BRIDGE #3179 REPLACEMENT

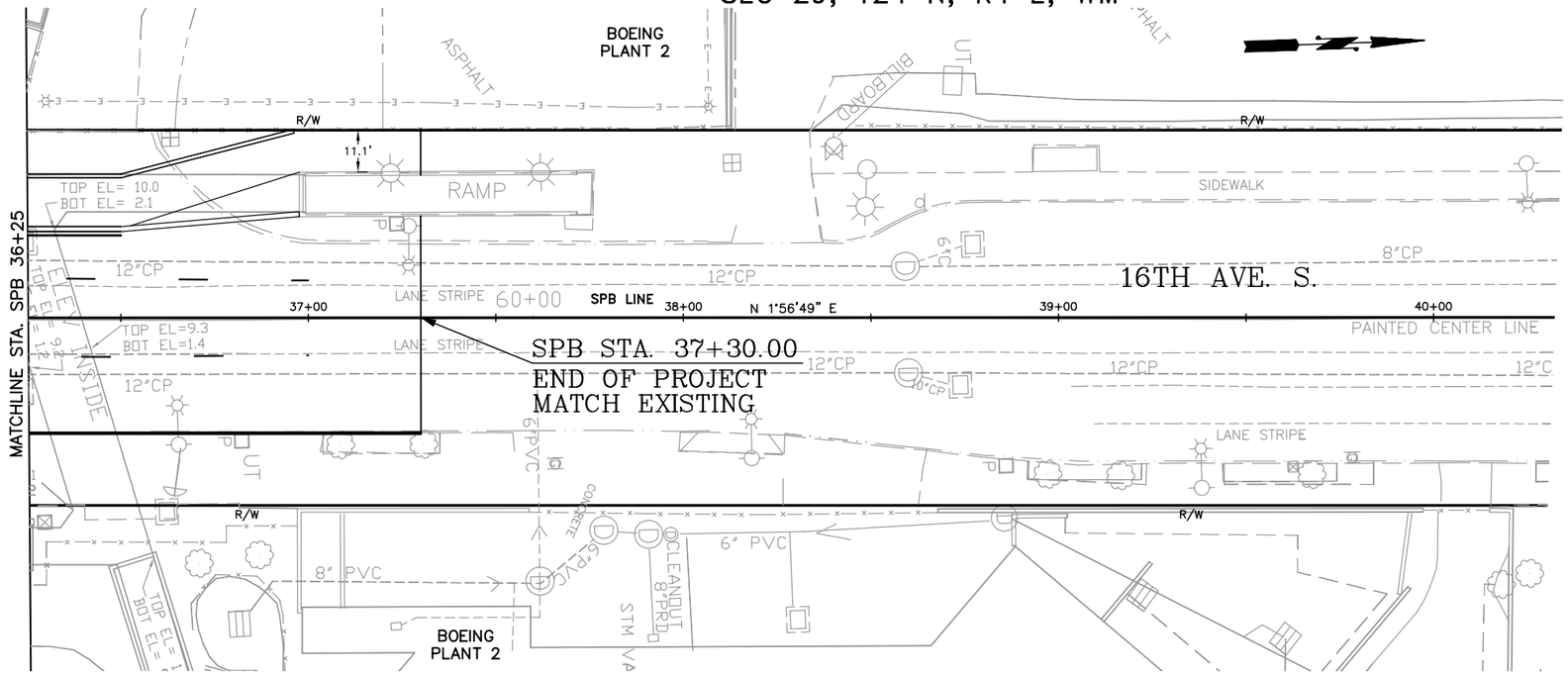
ROADWAY PLAN AND PROFILE - 5
STA 31+50 TO 36+25

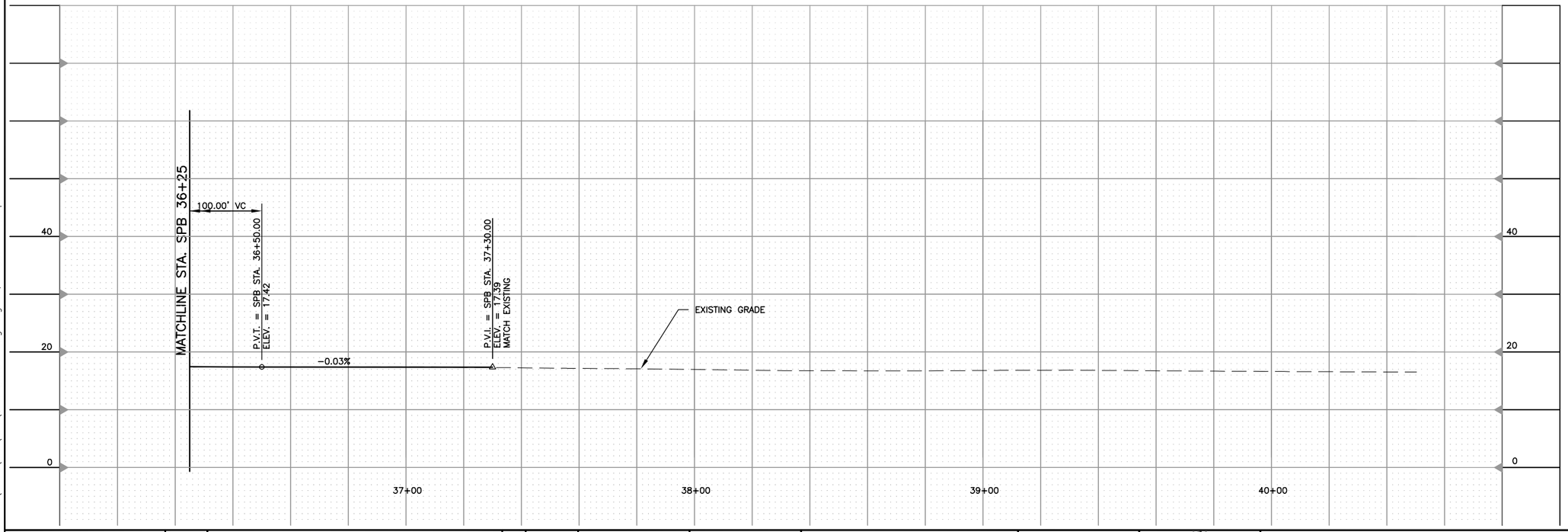
King County

SHEET 10 OF 59 SHEETS

316-63 (10)

SEC 29, T24 N, R4 E, WM





NOTES:

PRELIMINARY
NOT FOR CONSTRUCTION

DATUM
NAVD 88

10 5 0 10 20 30
VERT SCALE IN FEET

20 10 0 20 40 60
HORIZ SCALE IN FEET

CALL 2 WORKING DAYS BEFORE YOU DIG
1-800-424-5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

J:\2531757 S Park Movable Br\CADD\CIV\SHT\SPK-SHT011.dwg Aug 14, 2007 - 1:55pm

FIELD BOOK:					
SURVEYED:					
SURVEY BASE MAP:					
DESIGN ENTERED:	YR	06/2007			
DESIGNED	YR	06/2007			
CHECKED:	EIH	06/2007			
SUPERVISOR:			NUM.	REVISION	BY / DATE

PB
100 YEARS
PBQD, INC
999 THIRD AVE. #2200
SEATTLE, WA 98104

FED. AID No.

PROJECT No. 300197

SURVEY No. 32-24-4-22

MAINTENANCE DIVISION No.

TEK-FAN RU
STATE OF WASHINGTON
43216
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 10/30/07

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR

SOUTH PARK BRIDGE #3179 REPLACEMENT

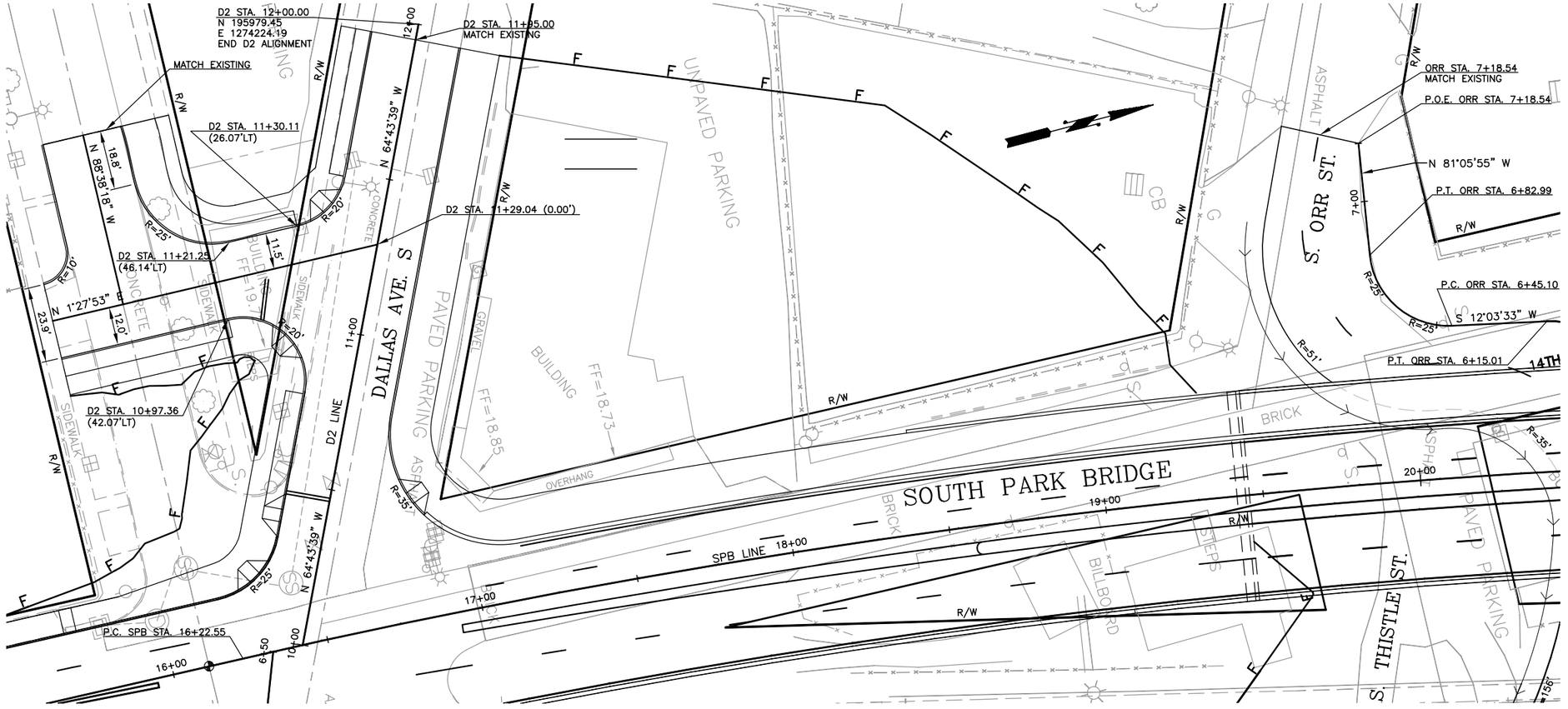
ROADWAY PLAN AND PROFILE - 6
SPB STA 36+25 TO 41+50

King County

SHEET 11 OF 59 SHEETS

316-63 (11)

SEC 32, T24 N, R4 E, WM

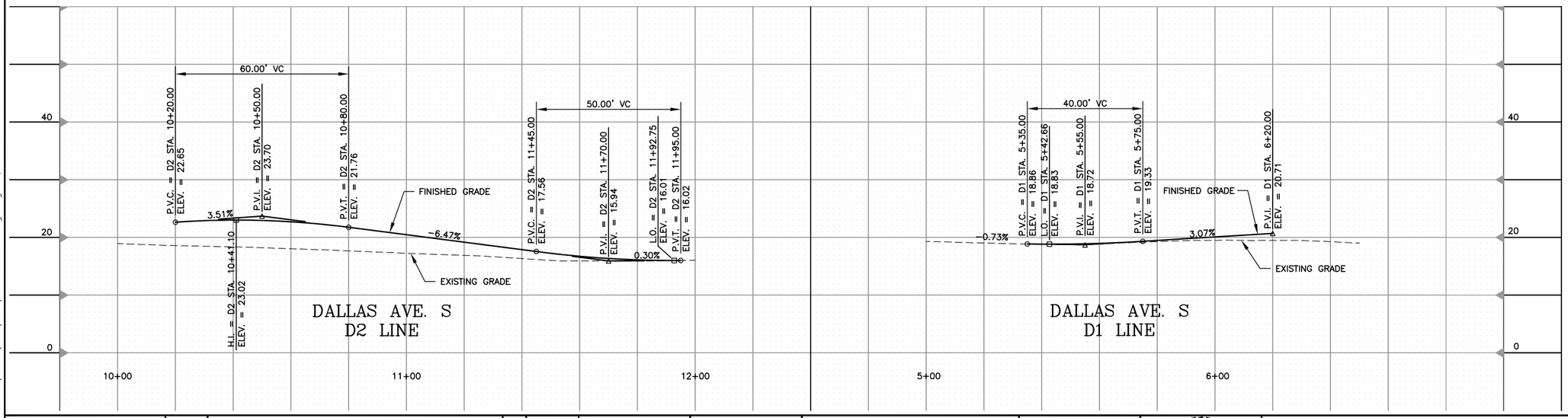


NOTES:

CURVE DATA

PC. STATION	PI. STATION	Δ	RADIUS	TANGENT	LENGTH
SPB 16+22.55	SPB 19+05.16	12°57'01" RT	2490.00'	282.61'	562.81'
ORR 6+45.10	ORR 6+68.76	86°50'32" RT	25.00'	23.66'	37.89'

PRELIMINARY
NOT FOR CONSTRUCTION



DATUM
NAVD 88

VERT SCALE IN FEET 10 5 0 10 20 30

HORIZ SCALE IN FEET 20 10 0 20 40 60

CALL 2 WORKING DAYS BEFORE YOU DIG
1-800-424-5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

FIELD BOOK:			
SURVEYED:			
SURVEY BASE MAP:			
DESIGN ENTERED:	BRP	06/2007	
DESIGNED	YR	06/2007	
CHECKED:	EIH	06/2007	
SUPERVISOR:			

NUM.	REVISION	BY	DATE

PB 100 YEARS
PBQD, INC
999 THIRD AVE. #2200
SEATTLE, WA 98104

FED. AID No.
PROJECT No. 300197
SURVEY No. 32-24-4-22
MAINTENANCE DIVISION No.

TEE-FAN RIU
STATE OF WASHINGTON
43216
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 10/30/07

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR

SOUTH PARK BRIDGE #3179 REPLACEMENT

ROADWAY PLAN AND PROFILE - 7
D1 AND D2

King County

SHEET 12 OF 59 SHEETS

316-63 (12)

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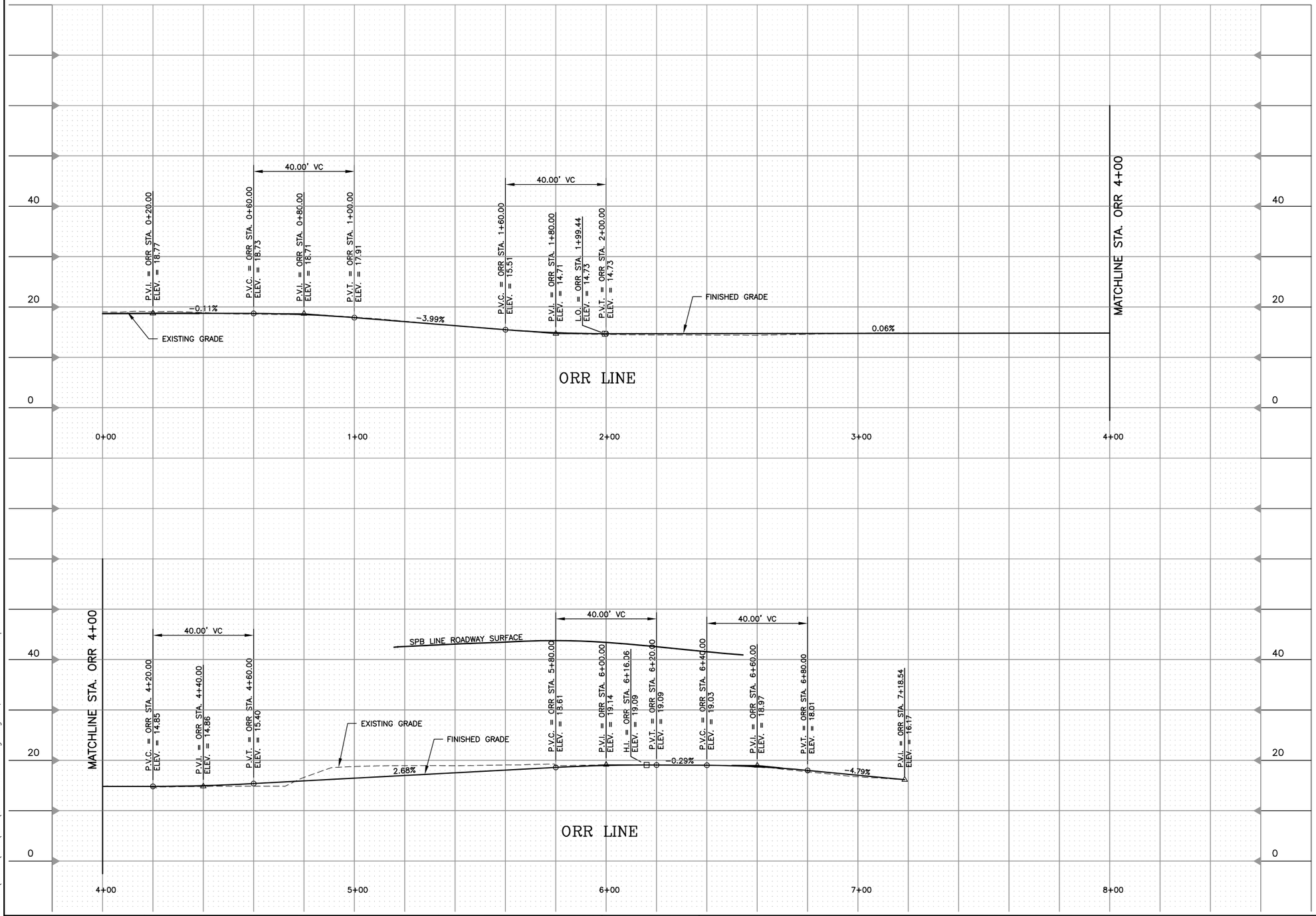


PRELIMINARY
NOT FOR CONSTRUCTION

DATUM
NAVD 88

10 5 0 10 20 30
VERT SCALE IN FEET

20 10 0 20 40 60
HORIZ SCALE IN FEET

CALL 2 WORKING DAYS BEFORE YOU DIG
1-800-424-5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

J:\2531757 S Park Movable Br\CADD\CIVIL\SHT\SPK-SHT013.dwg Aug 14, 2007 - 1:58pm

FIELD BOOK:					
SURVEYED:					
SURVEY BASE MAP:					
DESIGN ENTERED:	YR	06/2007			
DESIGNED	YR	06/2007			
CHECKED:	EIH	06/2007			
SUPERVISOR:			NUM.	REVISION	BY / DATE

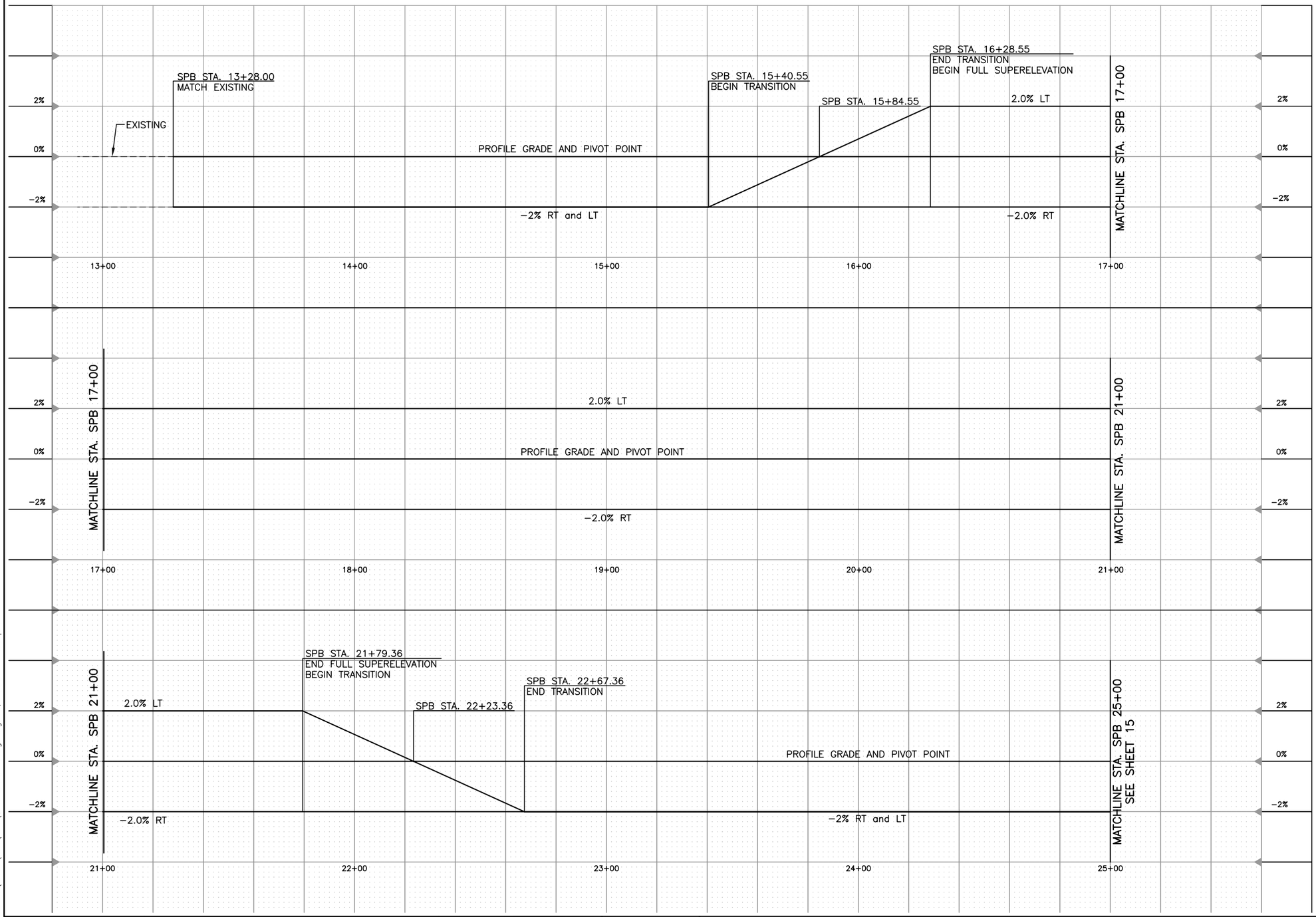
PBQD, INC 100 YEARS
999 THIRD AVE. #2200
SEATTLE, WA 98104

FED. AID No.
PROJECT No. 300197
SURVEY No. 32-24-4-22
MAINTENANCE DIVISION No.

HEE-FAN RU
STATE OF WASHINGTON
43216
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 10/30/07

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR
SOUTH PARK BRIDGE #3179 REPLACEMENT
ROADWAY PLAN AND PROFILE - 8
ORR STA 0+00 TO 7+18.54

King County
SHEET 13 OF 59 SHEETS
316-63 (13)



PRELIMINARY
NOT FOR CONSTRUCTION

DATUM
NAVD 88

20 10 0 20 40 60
HORIZ SCALE IN FEET

CALL 2 WORKING DAYS BEFORE YOU DIG
1−800−424−5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

J:\2531757 S Park Movable Br\CADD\CIVIL\SHT\SPK−SHT014.dwg Aug 14, 2007 − 1:59pm

FIELD BOOK:					
SURVEYED:					
SURVEY BASE MAP:					
DESIGN ENTERED:	YR	06/2007			
DESIGNED	YR	06/2007			
CHECKED:	EIH	06/2007			
SUPERVISOR:			NUM.	REVISION	BY / DATE

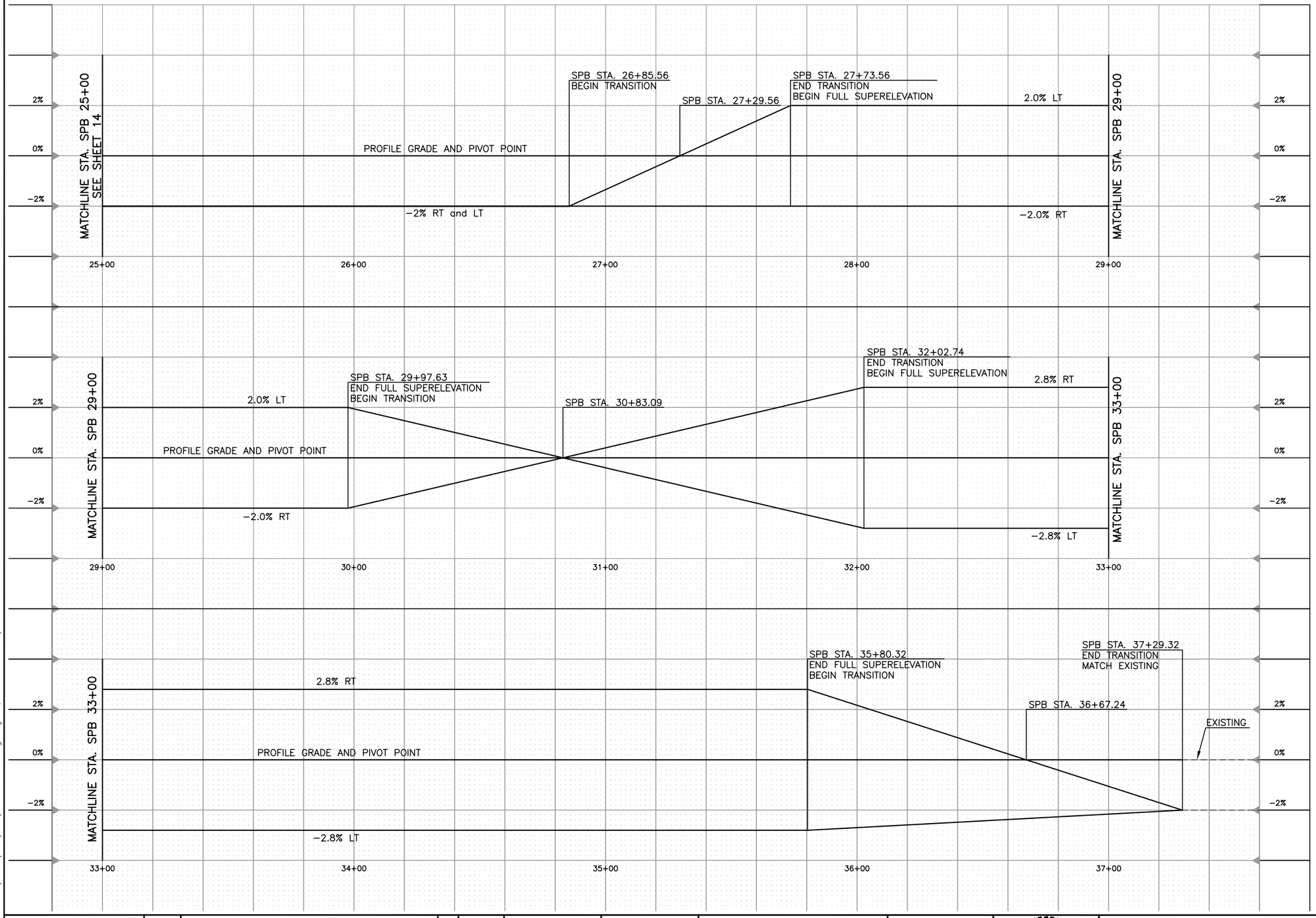
PB 100 YEARS
PBQD, INC
999 THIRD AVE. #2200
SEATTLE, WA 98104

FED. AID No.
PROJECT No. 300197
SURVEY No. 32−24−4−22
MAINTENANCE DIVISION No.

YEE−FAN RU
STATE OF WASHINGTON
43216
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 10/30/07

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR
SOUTH PARK BRIDGE #3179 REPLACEMENT
SUPERELEVATION DIAGRAM − 1

King County
SHEET 14 OF 59 SHEETS
316−63 (14)



PRELIMINARY
NOT FOR CONSTRUCTION

DATUM
NAVD 88

20 10 0 20 40 60
HORIZ SCALE IN FEET

CALL 2 WORKING DAYS BEFORE YOU DIG
1−800−424−5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

J:\253175T S Park Movable Br\CADD\CIV\SHT\SPK-SHT015.dwg Aug 14, 2007 - 2:01pm

FIELD BOOK:					
SURVEYED:					
SURVEY BASE MAP:					
DESIGN ENTERED:	YR	06/2007			
DESIGNED	YR	06/2007			
CHECKED:	EIH	06/2007			
SUPERVISOR:			NUM.	REVISION	BY / DATE

PB 100 YEARS
PBQD, INC
999 THIRD AVE. #2200
SEATTLE, WA 98104

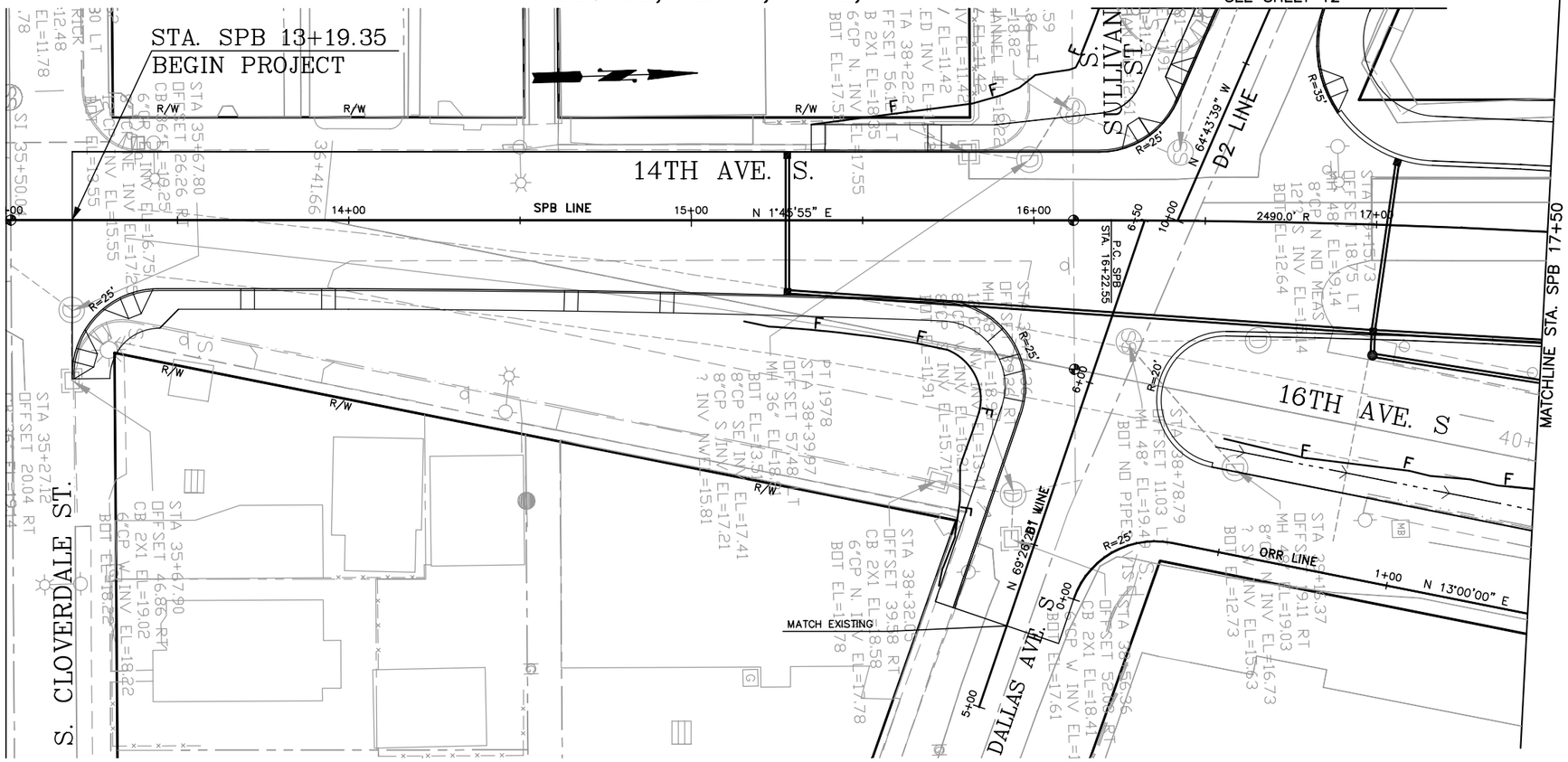
FED. AID No.
PROJECT No. 300197
SURVEY No. 32-24-4-22
MAINTENANCE DIVISION No.

YEA-FAN RU
STATE OF WASHINGTON
43216
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 10/30/07

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR
SOUTH PARK BRIDGE #3179 REPLACEMENT
SUPERELEVATION DIAGRAM − 2

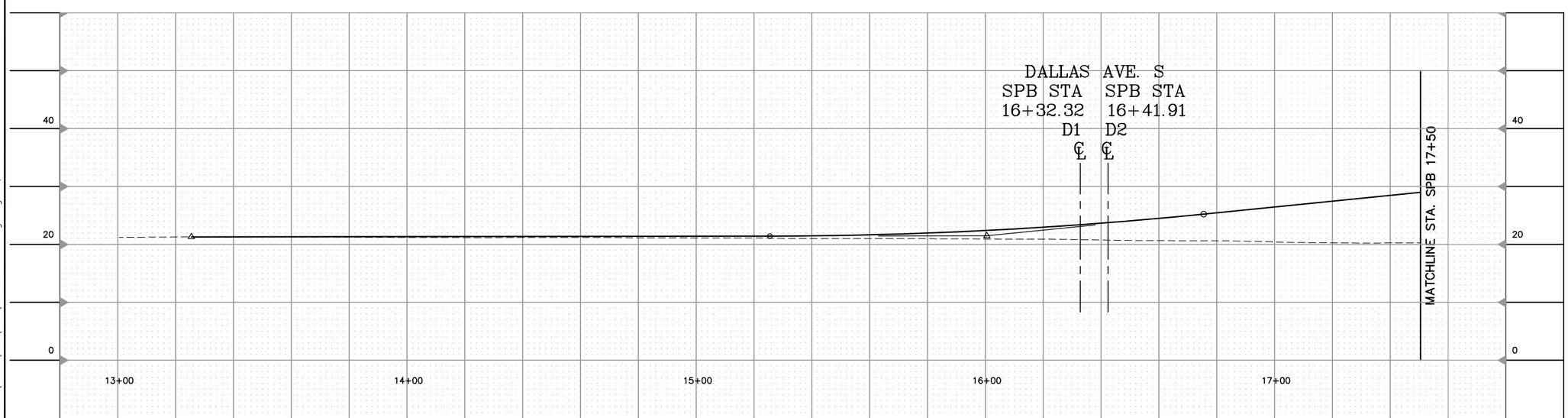
King County
SHEET 15 OF 59 SHEETS
316−63 (15)

SEC 32, T24 N, R4 E, WM

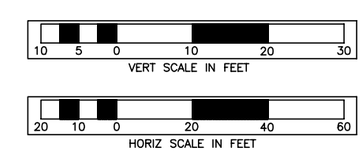


NOTES:

PRELIMINARY
NOT FOR CONSTRUCTION



NAVD 88



CALL 2 WORKING DAYS BEFORE YOU DIG
1-800-424-5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

FIELD BOOK:		
SURVEYED:		
SURVEY BASE MAP:		
DESIGN ENTERED:	SS	06/2007
DESIGNED	WML	06/2007
CHECKED:	EIH	06/2007
SUPERVISOR:		

NUM.	REVISION	BY	DATE

PB 100 YEARS
PBQD, INC
999 THIRD AVE. #2200
SEATTLE, WA 98104

FED. AID No.
PROJECT No. 300197
SURVEY No. 32-24-4-22
MAINTENANCE DIVISION No.

WILLIAM M. LIDER
STATE OF WASHINGTON
22171
REGISTERED PROFESSIONAL ENGINEER
EXPIRES 8/16/08

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR
SOUTH PARK BRIDGE #3179
REPLACEMENT
DRAINAGE - 1
SPB STA 13+00 TO 17+50

King County

SHEET 16 OF 59 SHEETS

316-63 (16)

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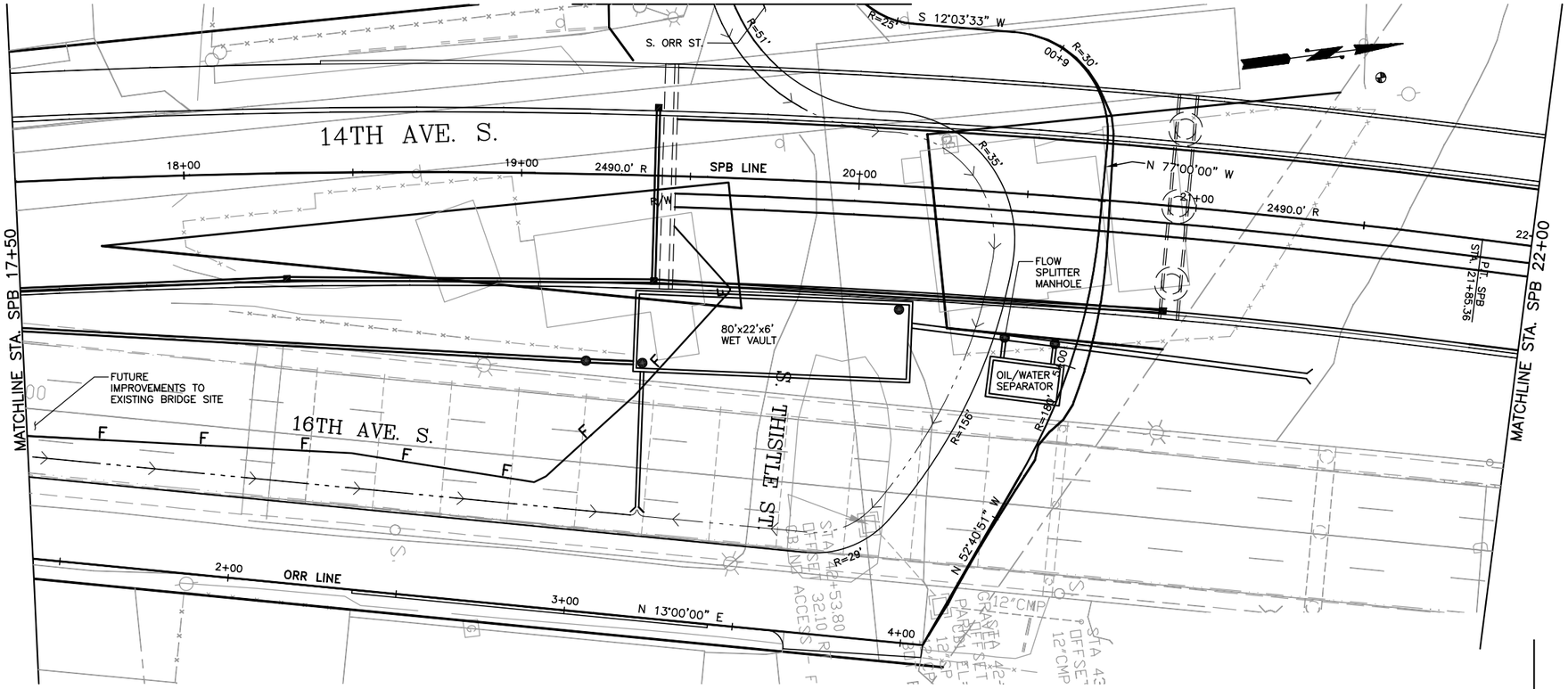
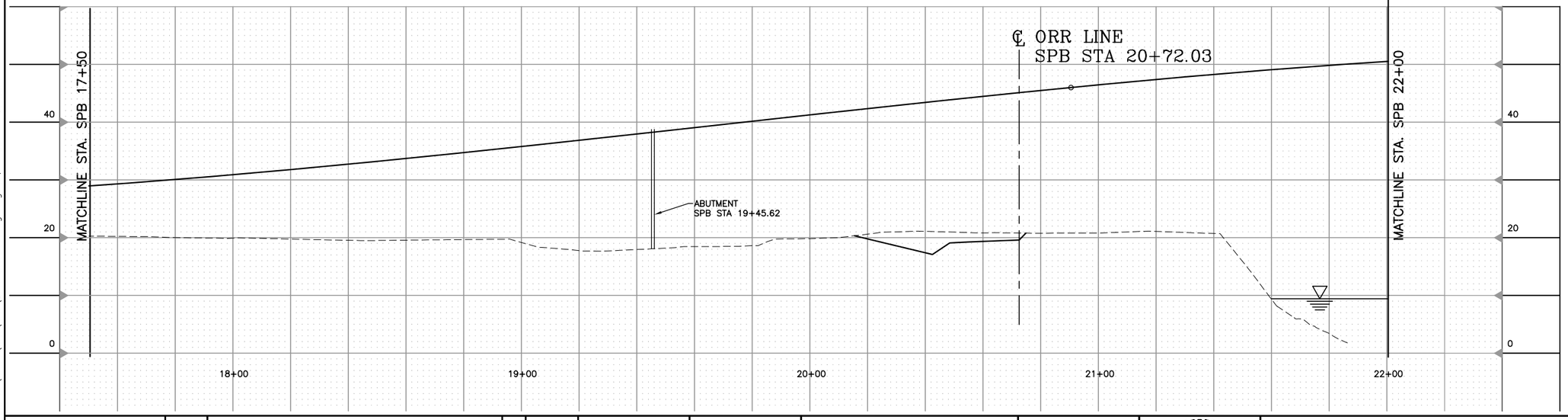
SEC 32, T24 N, R4 E, WM





NOTES:

PRELIMINARY
NOT FOR CONSTRUCTION

DATUM
NAVD 88

10 5 0 10 20 30
VERT SCALE IN FEET

20 10 0 20 40 60
HORIZ SCALE IN FEET

CALL 2 WORKING DAYS BEFORE YOU DIG
1-800-424-5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

FIELD BOOK:			
SURVEYED:			
SURVEY BASE MAP:			
DESIGN ENTERED:	SS	06/2007	
DESIGNED	WML	06/2007	
CHECKED:	EIH	06/2007	
SUPERVISOR:			

NUM.	REVISION	BY	DATE

PB 100 YEARS
PBQD, INC
999 THIRD AVE. #2200
SEATTLE, WA 98104

FED. AID No.
PROJECT No. 300197
SURVEY No. 32-24-4-22
MAINTENANCE DIVISION No.

WILLIAM M. LIEBER
STATE OF WASHINGTON
22171
REGISTERED PROFESSIONAL ENGINEER
EXPIRES 8/16/08

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR
SOUTH PARK BRIDGE #3179 REPLACEMENT
DRAINAGE - 2
SPB STA 17+50 TO 22+00

King County
SHEET 17 OF 59 SHEETS
316-63 (17)

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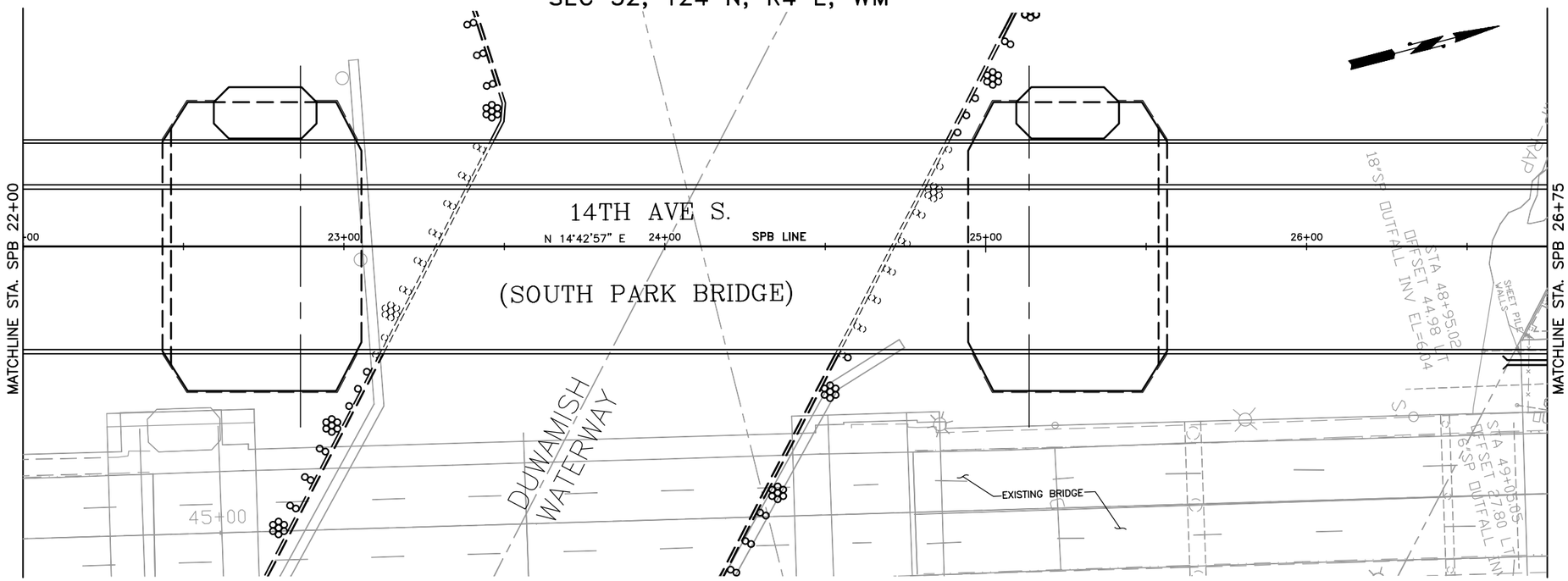
SEC 32, T24 N, R4 E, WM



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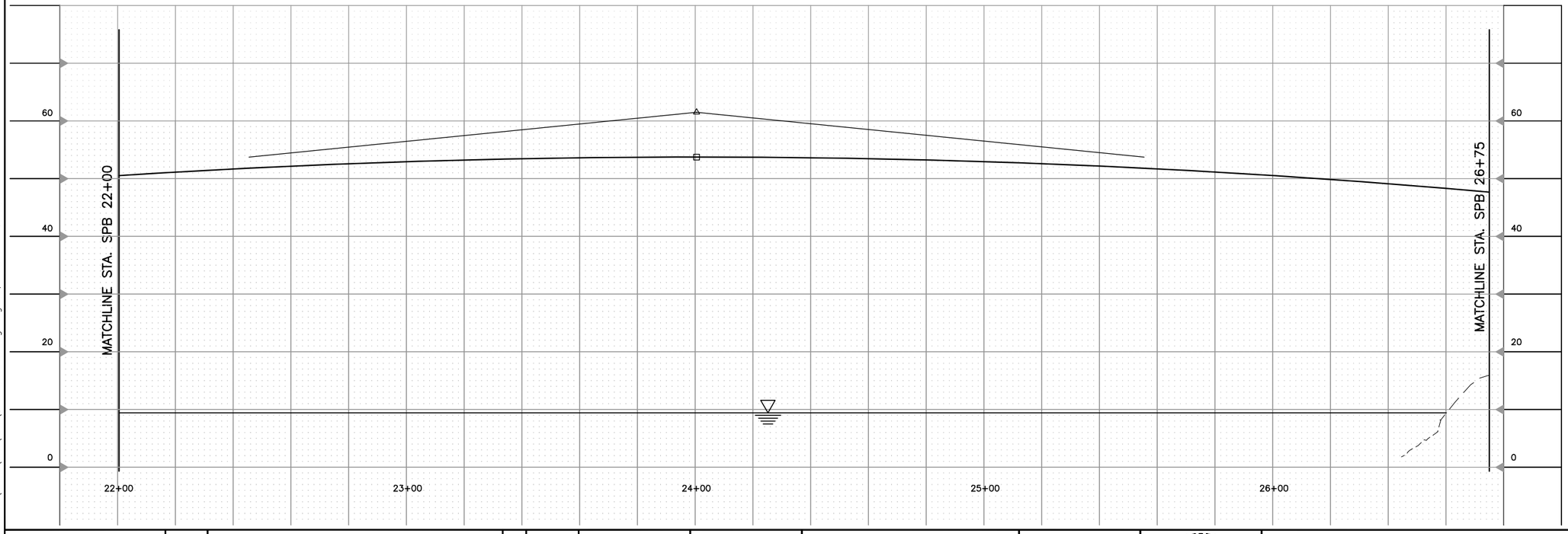

PRELIMINARY
NOT FOR CONSTRUCTION

DATUM

NAVD 88

10 5 0 10 20 30
VERT SCALE IN FEET

20 10 0 20 40 60
HORIZ SCALE IN FEET

CALL 2 WORKING DAYS BEFORE YOU DIG
1-800-424-5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

J:\25317S7 S Park Movable Br\CADD\CIV\SHT\SPK-SHT018.dwg Aug 15, 2007 - 9:17am

FIELD BOOK:			
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SURVEY BASE MAP:			
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DESIGNED	WML	06/2007	
CHECKED:	EIH	06/2007	
SUPERVISOR:			

NUM.	REVISION	BY	DATE

PB 100 YEARS
PBQD, INC
999 THIRD AVE. #2200
SEATTLE, WA 98104

FED. AID No.

PROJECT No. 300197

SURVEY No. 32-24-4-22

MAINTENANCE DIVISION No.

WILLIAM M. TIEDE
STATE OF WASHINGTON
22171
REGISTERED PROFESSIONAL ENGINEER
EXPIRES 8/16/08

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR

SOUTH PARK BRIDGE #3179 REPLACEMENT

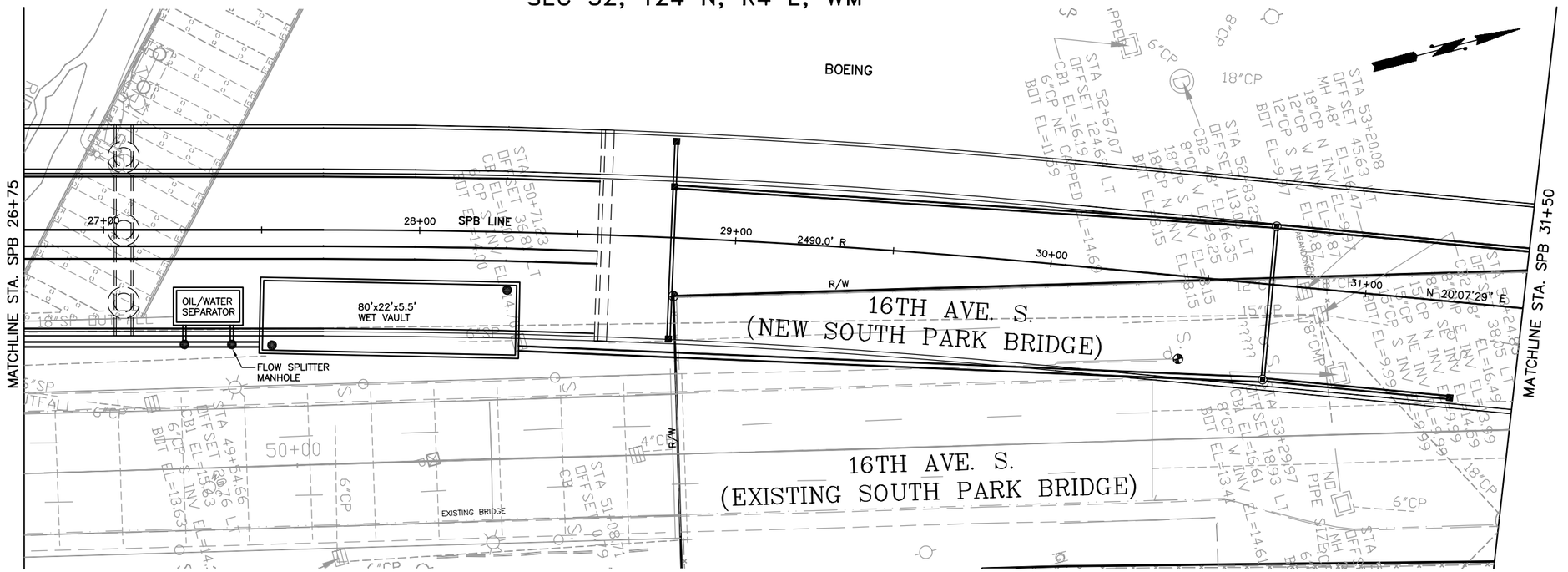
DRAINAGE - 3
SPB STA 22+00 TO 26+75

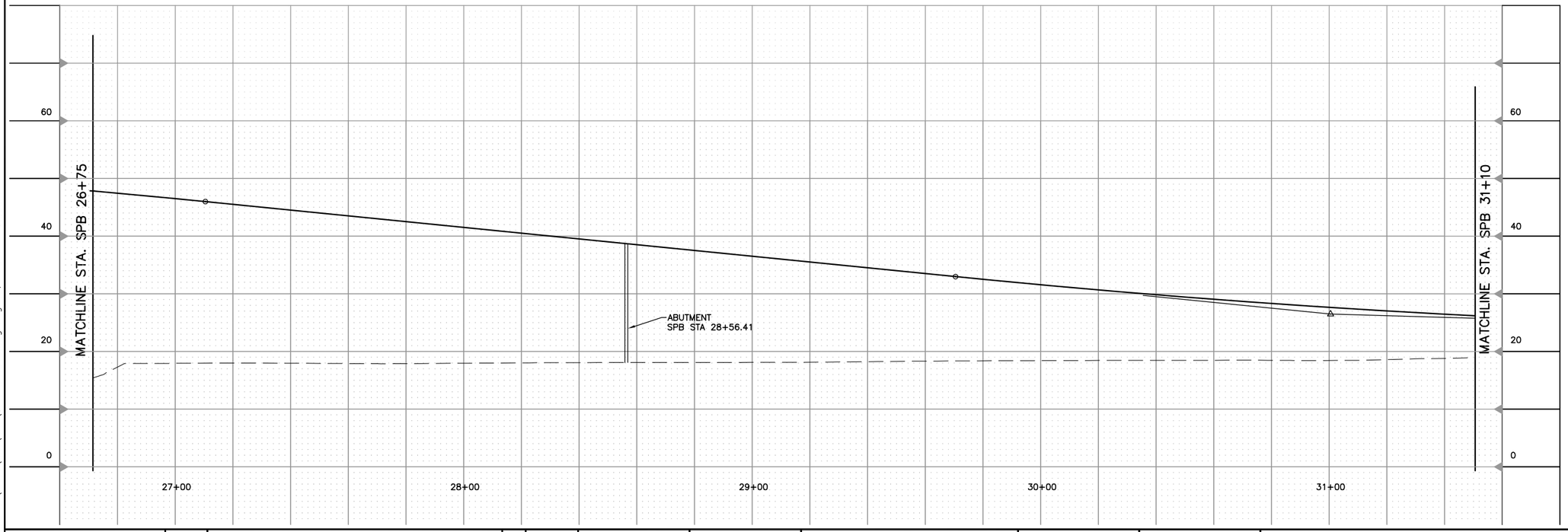
King County

SHEET 18 OF 59 SHEETS

316-63 (18)

SEC 32, T24 N, R4 E, WM





NOTES:

PRELIMINARY
NOT FOR CONSTRUCTION

DATUM
NAVD 88

10 5 0 10 20 30
VERT SCALE IN FEET

20 10 0 20 40 60
HORIZ SCALE IN FEET

CALL 2 WORKING DAYS BEFORE YOU DIG
1-800-424-5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

J:\2531757 S Park Movable Br\CADD\CIV\SHT\SPK-SHT019.dwg Aug 15, 2007 - 9:59am

FIELD BOOK:			
SURVEYED:			
SURVEY BASE MAP:			
DESIGN ENTERED:	SS	06/2007	
DESIGNED	WML	06/2007	
CHECKED:	EIH	06/2007	
SUPERVISOR:			

NUM.	REVISION	BY	DATE

PB 100 YEARS
PBQD, INC
999 THIRD AVE. #2200
SEATTLE, WA 98104

FED. AID No.
PROJECT No. 300197
SURVEY No. 32-24-4-22
MAINTENANCE DIVISION No.

WILLIAM M. LIEBER
STATE OF WASHINGTON
22171
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 8/16/08

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR

SOUTH PARK BRIDGE #3179 REPLACEMENT

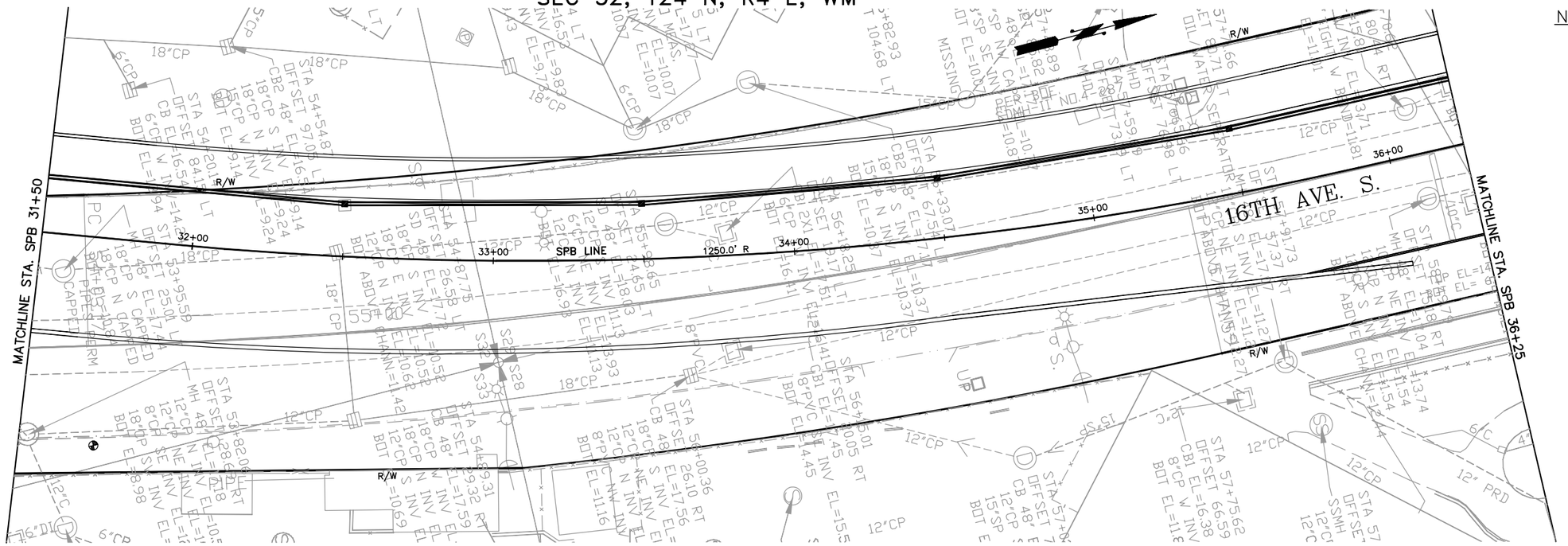
DRAINAGE - 4
SPB STA 26+50 TO 31+50

King County

SHEET 19 OF 59 SHEETS

316-63 (19)

SEC 32, T24 N, R4 E, WM



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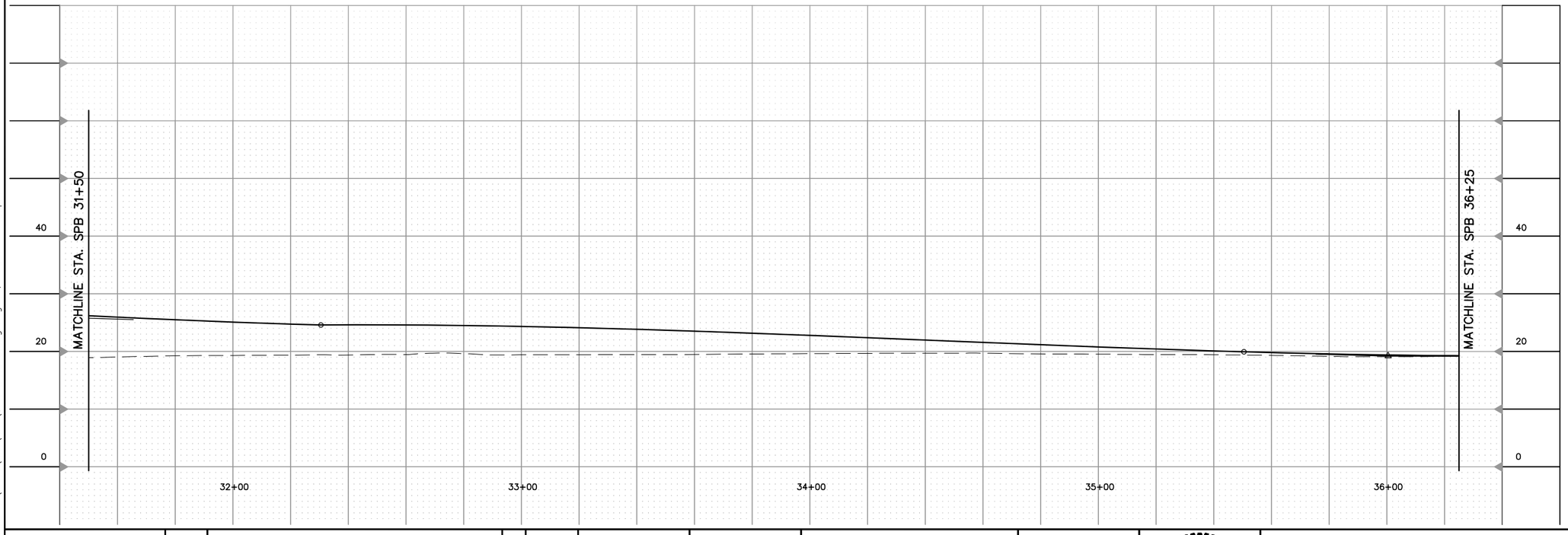


PRELIMINARY
NOT FOR CONSTRUCTION

DATUM

NAVD 88

10 5 0 10 20 30
VERT SCALE IN FEET

20 10 0 20 40 60
HORIZ SCALE IN FEET

CALL 2 WORKING DAYS BEFORE YOU DIG
1-800-424-5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

FIELD BOOK:		
SURVEYED:		
SURVEY BASE MAP:		
DESIGN ENTERED:	SS	06/2007
DESIGNED	WML	06/2007
CHECKED:	EIH	06/2007
SUPERVISOR:		

NUM.	REVISION	BY	DATE

PB 100 YEARS
PBQD, INC
999 THIRD AVE. #2200
SEATTLE, WA 98104

FED. AID No.

PROJECT No. 300197
SURVEY No. 32-24-4-22

MAINTENANCE DIVISION No.

WILLIAM M. LIDER
STATE OF WASHINGTON
22171
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 8/16/08

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR
SOUTH PARK BRIDGE #3179
REPLACEMENT
DRAINAGE - 5
SPB STA 31+50 TO 36+25

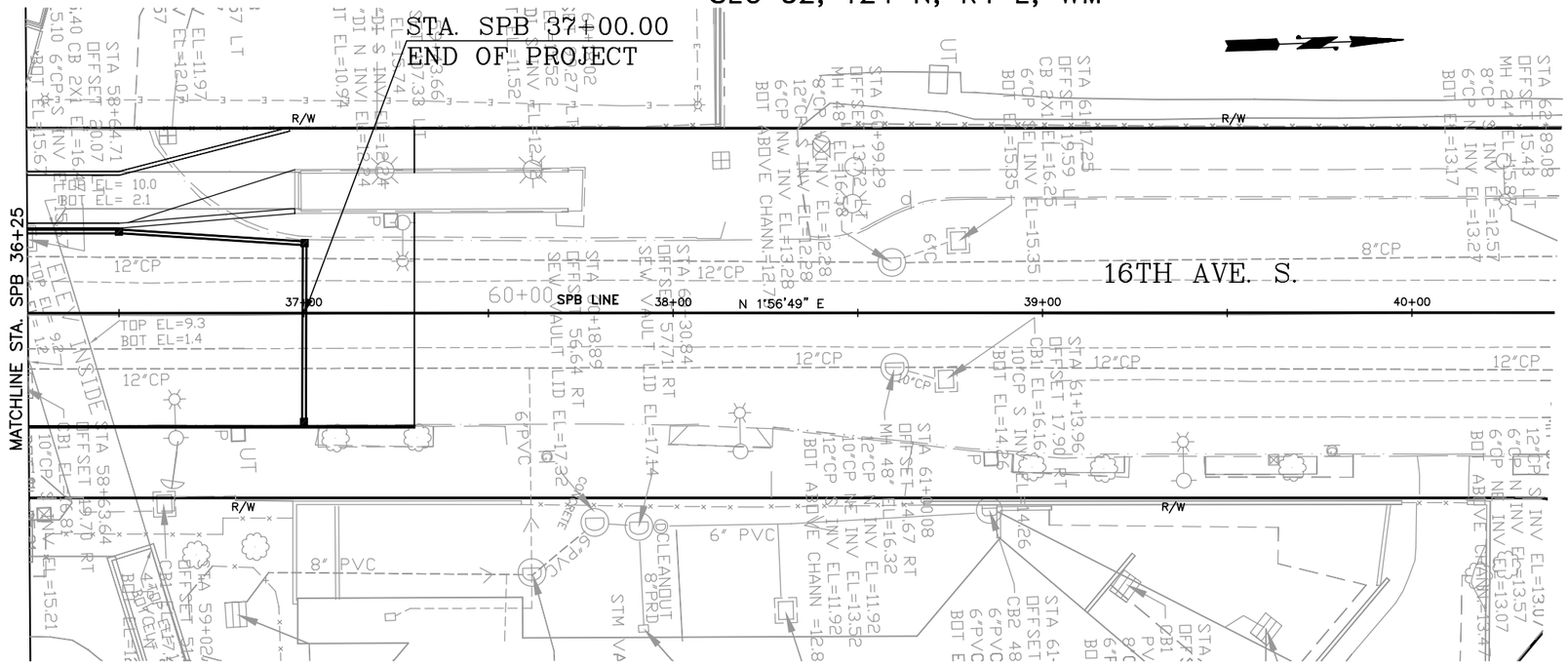
King County

SHEET 20 OF 59 SHEETS

316-63 (20)

J:\25317S7 S Park Movable Br\CADD\CIVI\SHT\SPK-SHT020.dwg Aug 14, 2007 - 2:08pm

SEC 32, T24 N, R4 E, WM



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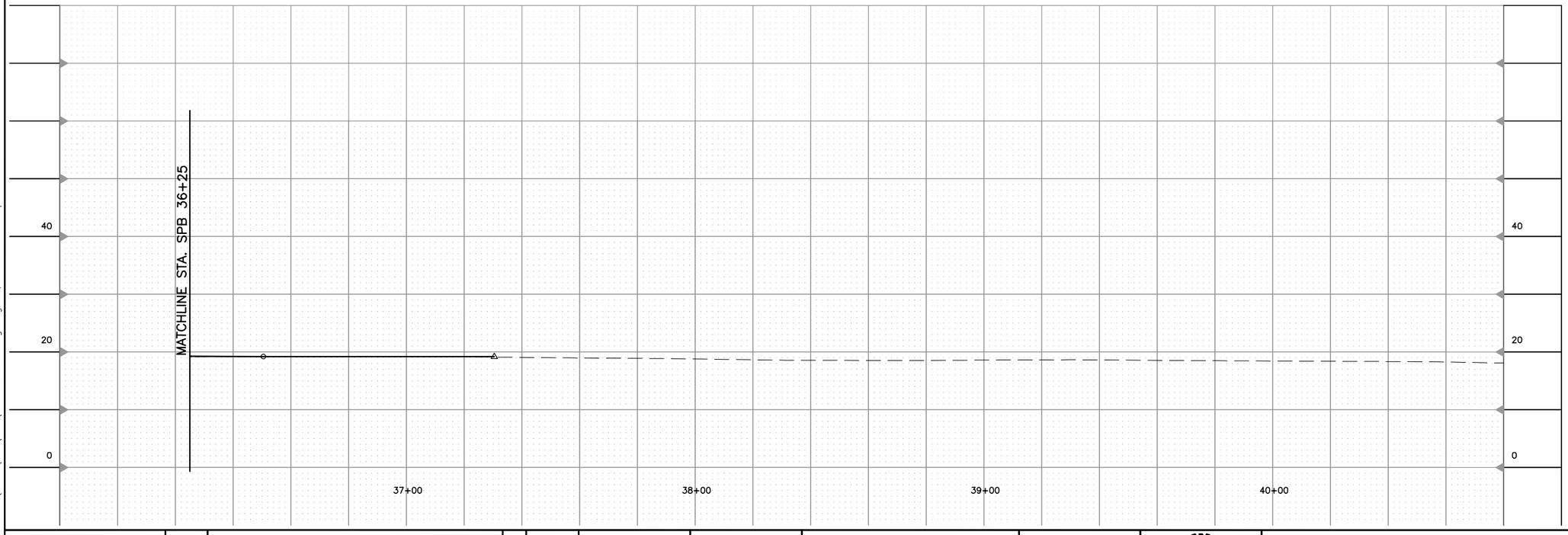


PRELIMINARY
NOT FOR CONSTRUCTION

DATUM
NAVD 88

10 5 0 10 20 30
VERT SCALE IN FEET

20 10 0 20 40 60
HORIZ SCALE IN FEET

CALL 2 WORKING DAYS BEFORE YOU DIG
1-800-424-5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

FIELD BOOK:			
SURVEYED:			
SURVEY BASE MAP:			
DESIGN ENTERED:	SS	06/2007	
DESIGNED	WML	06/2007	
CHECKED:	EIH	06/2007	
SUPERVISOR:			

NUM.	REVISION	BY	DATE

PB 100 YEARS
PBQD, INC
999 THIRD AVE. #2200
SEATTLE, WA 98104

FED. AID No.
PROJECT No. 300197
SURVEY No. 32-24-4-22
MAINTENANCE DIVISION No.

WILLIAM M. LIBER
STATE OF WASHINGTON
22171
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 8/16/08

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR

SOUTH PARK BRIDGE #3179 REPLACEMENT

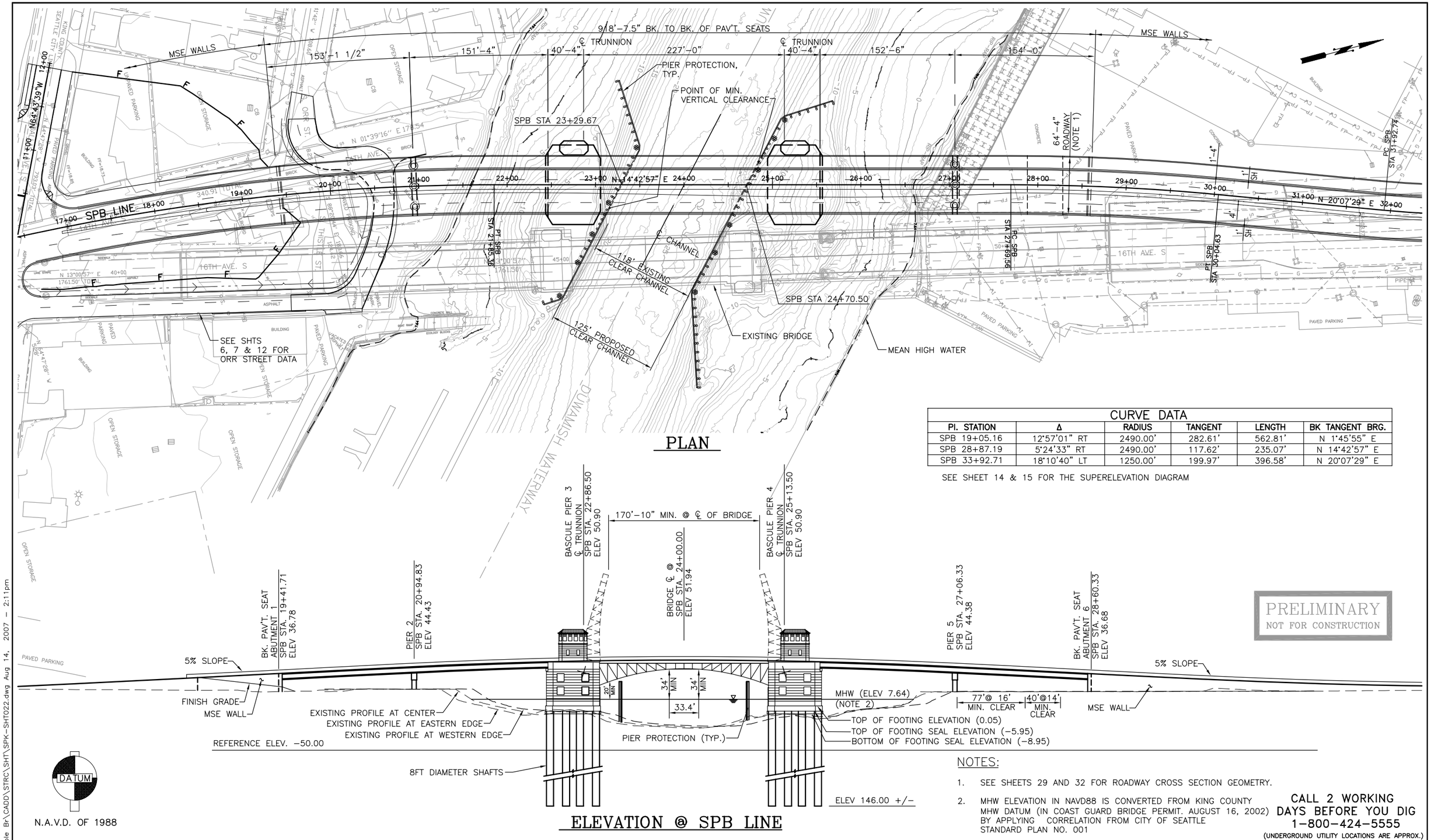
DRAINAGE - 6
SPB STA 36+25 TO 41+50

King County

SHEET 21 OF 59 SHEETS

316-63 (21)

J:\2531757 S Park Movable Br\CADD\CIV\SHT\SPK-SHT021.dwg Aug 14, 2007 - 2:10pm



PLAN

CURVE DATA					
PI. STATION	Δ	RADIUS	TANGENT	LENGTH	BK TANGENT BRG.
SPB 19+05.16	12°57'01" RT	2490.00'	282.61'	562.81'	N 1°45'55" E
SPB 28+87.19	5°24'33" RT	2490.00'	117.62'	235.07'	N 14°42'57" E
SPB 33+92.71	18°10'40" LT	1250.00'	199.97'	396.58'	N 20°07'29" E

SEE SHEET 14 & 15 FOR THE SUPERELEVATION DIAGRAM

ELEVATION @ SPB LINE

DATUM

N.A.V.D. OF 1988

PRELIMINARY
NOT FOR CONSTRUCTION

NOTES:

1. SEE SHEETS 29 AND 32 FOR ROADWAY CROSS SECTION GEOMETRY.
2. MHW ELEVATION IN NAVD88 IS CONVERTED FROM KING COUNTY MHW DATUM (IN COAST GUARD BRIDGE PERMIT. AUGUST 16, 2002) BY APPLYING CORRELATION FROM CITY OF SEATTLE STANDARD PLAN NO. 001

CALL 2 WORKING DAYS BEFORE YOU DIG 1-800-424-5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

FIELD BOOK:				
SURVEYED:				
SURVEY BASE MAP:				
DESIGN ENTERED:	06/2007			
DESIGNED C. BINKLEY	06/2007			
CHECKED: F. HAN	06/2007			
SUPERVISOR:		NUM. REVISION	BY	DATE

PBQD, INC 999 THIRD AVE. #2200 SEATTLE, WA 98104

FED. AID No.
PROJECT No. 300197
SURVEY No. 32-24-4-22
MAINTENANCE DIVISION No.

YUHE YANG STATE OF WASHINGTON 23940 REGISTERED PROFESSIONAL ENGINEER
EXPIRES 6/27/07

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR
SOUTH PARK BRIDGE #3179 REPLACEMENT
BRIDGE PLAN AND ELEVATION

King County
SHEET 22 OF 59 SHEETS
316-63 (22)

J:\25317S7 S Park Movable Br\CADD\STRC\SHT\SPK-SHT022.dwg Aug 14, 2007 - 2:11pm

GENERAL STRUCTURAL NOTES:

A. THESE NOTES CONTAIN GENERAL INFORMATION AND ARE NOT COMPLETE FOR CONSTRUCTION PURPOSES. CONTRACTOR SHALL VERIFY INFORMATION GIVEN HERE WITH SPECIFICATIONS AND OTHER CONTRACT DOCUMENTS.

B. ALL DIMENSIONS AND DETAILS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO FABRICATION AND CONSTRUCTION.

C. ALL SHOP DRAWINGS FOR PRECAST CONCRETE ELEMENTS, REINFORCING STEEL AND MISCELLANEOUS STEEL SHALL BE SUBMITTED TO AND REVIEWED BY THE COUNTY PRIOR TO FABRICATION.

D. ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE STATE OF WASHINGTON, DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION DATED 2006, EXCEPT AS NOTED IN THE PROJECT SPECIAL PROVISIONS & CONTRACT PLANS.

E. THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE:

- WASHINGTON STATE DEPARTMENT OF TRANSPORTATION "STANDARD PLANS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION – ENGLISH, M21–01" WITH REVISIONS THROUGH APRIL 2007.
- WASHINGTON STATE DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION, 2006, M41–10".
- AASHTO "LRFD BRIDGE DESIGN SPECIFICATIONS", 4TH EDITION, 2007.
- WSDOT BRIDGE DESIGN MANUAL (LRFD), 2007
- INTERNATIONAL BUILDING CODE, 2006.
- AMERICAN CONCRETE INSTITUTE (ACI) "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY", ACI 318–05.
- AISC "STEEL CONSTRUCTION MANUAL", 13TH EDITION.
- AASHTO/AWS (AMERICAN WELDING SOCIETY) "D1.5M/D1.5 BRIDGE WELDING CODE", 2005.
- AASHTO "LRFD MOVABLE HIGHWAY BRIDGE DESIGN SPECIFICATIONS", 2ND EDITION, 2007.
- AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINARIES AND TRAFFIC SIGNALS", 4TH EDITION, WITH 2002 AND 2003 INTERIMS.
- AASHTO "RECOMMENDED LRFD GUIDELINES FOR THE SEISMIC DESIGN OF HIGHWAY BRIDGES", MAY 2006.

F. MATERIALS OF CONSTRUCTION

1. CONCRETE

SIDEWALK, CURB AND GUTTER	CLASS 3,000
BRIDGE ROADWAY DECKING	CLASS 4,000D
COLUMNS AND CROSS BEAMS	CLASS 4,000
DRILLED SHAFT, FOOTING	CLASS 4,000P
BARRIER, RETAINING WALLS, SIGN, SIGNAL AND ILLUMINATION BASES	CLASS 4,000
UNDERWATER IN SEAL	CLASS 4,000W
PRECAST PRESTRESSED CONCRETE	CLASS 7,000

2. REINFORCEMENT

REINFORCING STEEL SHALL BE AASHTO M31 (ASTM A615) GRADE 60 (UNLESS SPECIFIED DIFFERENTLY IN THE PLANS). ASTM A706 BARS SHALL BE USED WHERE DUCTIBILITY IS TO BE ASSURED OR WHERE WELDING IS REQUIRED. REBAR CLEARANCE INDICATED IN THE PLANS ARE FROM THE SURFACE OF CONCRETE TO THE SURFACE OF THE REBAR. ALL HOOKS SHALL BE STANDARD HOOKS UNLESS NOTED OTHERWISE.

3. PRESTRESSING STRAND FOR PRETENSIONING PRECAST CONCRETE GIRDERS

a. PRESTRESSING STRAND FOR PRECAST MEMBER SHALL BE 0.6 INCH DIAMETER LOW–RELAXATION SEVEN WIRE STRAND AASHTO M203, GRADE 270 (ASTM A416, GRADE 270).

b. PRESTRESSING STRAND PARAMETERS

(1) MODULUS OF ELASTICY OF STRAND (APPARENT MODULUS), 28,500 KSI.
(2) ULTIMATE STRENGTH, FPU + 270 KSI.

4. PRESTRESSING BAR

PRESTRESSING BAR SHALL BE AASHTO M275 (ASTM A722) WITH TENSIL STRENGTH OF 150 KSI. MODULUS OF ELASTICITY IS 30,000 KSI.

5. WELDS

WELD ELECTRODES SHALL CONFORM TO TABLES 4.1 AND 4.2 OF ANSI/AASHTO/AWS D1.5.

6. GROUT

ALL GROUT, EXCEPT AS NOTED IN THE SPECIFICATIONS, SHALL BE PREPACKAGED, NON–SHRINK GROUT, MIXED, PLACED AND CURED AS RECOMMENDED BY THE MANUFACTURER.

7. STRUCTURAL STEEL

STRUCTURAL STEEL FOR MAIN MEMBERS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M270 GR 50 OR 50W. STRUCTURAL STEEL FOR SECONDARY MEMBERS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M270 GR 36 OR GR 50W (ASTM A588 GR 50W), UNLESS OTHERWISE NOTED IN THE PLANS. ALL STRUCTURAL STEEL SHALL BE PAINTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

8. BOLTS

ALL BOLTED CONNECTIONS ARE FRICTION TYPE, UNLESS NOTED OTHERWISE, CONFORMING TO THE STANDARD SPECIFICATIONS FOR HIGH STRENGTH BOLTS, AASHTO M164 (ASTM A325). BOLTS SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M232. ANCHOR BOLTS SHALL CONFORM TO ASTM A449, GALVANIZED PER ASTM A143.

G. UNLESS OTHERWISE NOTED ON THE PLANS, CONCRETE COVER TO THE FACE OF THE OUTERMOST REINFORCING BAR SHALL BE:

2 1/2" AT THE TOP OF THE ROADWAY SLAB.
1" AT THE BOTTOM OF THE ROADWAY SLAB.
3" AT THE BOTTOM OF ABUTMENTS AND WING WALLS.
6" AT THE SIDES OF SHAFTS
3" AT THE BOTTOM OF SHAFTS
2" AT THE OTHER CONCRETE SURFACES.

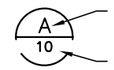
H. ALL EXPOSED CONCRETE EDGES SHALL HAVE A 3/4" CHAMFER, UNLESS OTHERWISE NOTED.

I. ALL DIMENSIONS SHOWN ARE HORIZONTAL OR VERTICAL UNLESS OTHERWISE NOTED. ALL PLAN DIMENSIONS ARE BASED ON A NORMAL INSTALLATION TEMPERATURE OF 64° F.

J. THE CONDUIT AND JUNCTION BOXES ARE SHOWN FOR REFERENCE ONLY. THE CONTRACTOR SHALL COORDINATE THESE PLANS WITH THE ELECTRICAL, MECHANICAL AND CIVIL PLANS.

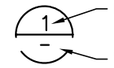
K. THE UTILITIES AND UNDERGROUND DRAINAGE ARE SHOWN FOR REFERENCE ONLY. THE CONTRACTOR SHALL VERIFY THESE PLANS WITH THE UTILITY PLANS.

LEGEND:



LETTER IDENTIFIES SECTION OR VIEW

IDENTIFIES SHEET NO. ON WHICH SECTION, VIEW OR DETAIL IS SHOWN OR TAKEN FROM



NUMBER IDENTIFIES DETAILS

"–" INDICATES SHOWN ON THE SAME SHEET

B–1 BORING LOCATION

C–1 CONE LOCATION

EPOXY COATED BAR

201 REINFORCEMENT BAR MARK

ABBREVIATION:

ABT	ABOUT
APPROX	APPROXIMATE
BOT	BOTTOM
BRG	BEARING
℄	CENTERLINE
CLR	CLEAR
CIP	CAST IN PLACE
CG	CENTER OF GRAVITY
CSL	CROSS HOLE SONIC LOGGING
DEMO	DEMOLITION
DIA	DIAMETER
E	EXPANSION
EA	EACH
EF	EACH FACE
EL	ELEVATION
EQ	EQUAL
EXT	EXTERNAL
F	FIXED
FT	FOOT/FEET
FF	FAR FACE
GR	GRADE
IN	INCHES
INT	INTERNAL
INTERM	INTERMEDIATE
LT	LEFT
MAX	MAXIMUM
MIN	MINIMUM
N	NORTH
NF	NEAR FACE
NTS	NOT TO SCALE
PVMT	PAVEMENT
PS	PRESTRESSED
PT	POINT
R	RADIUS
RT	RIGHT
SEW	STRUCTURAL EARTH WALL
SHT	SHEET
SPA	SPACING
STA	STATION
SYM	SYMMETRICAL
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
W/	WITH
W/O	WITHOUT
&	AND

PRELIMINARY
NOT FOR CONSTRUCTION

CALL 2 WORKING DAYS BEFORE YOU DIG
1–800–424–5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

FIELD BOOK:					
SURVEYED:					
SURVEY BASE MAP:					
DESIGN ENTERED:	06/2007				
DESIGNED C. GAO	06/2007				
CHECKED: Y. YANG	06/2007				
SUPERVISOR:		NUM.	REVISION	BY	DATE

PBQD, INC
999 THIRD AVE. #2200
SEATTLE, WA 98104

FED. AID No.

PROJECT No. 300197

SURVEY No. 32–24–4–22

MAINTENANCE DIVISION No.

YUHE YANG
STATE OF WASHINGTON
23940
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 6/27/07

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR

SOUTH PARK BRIDGE #3179 REPLACEMENT

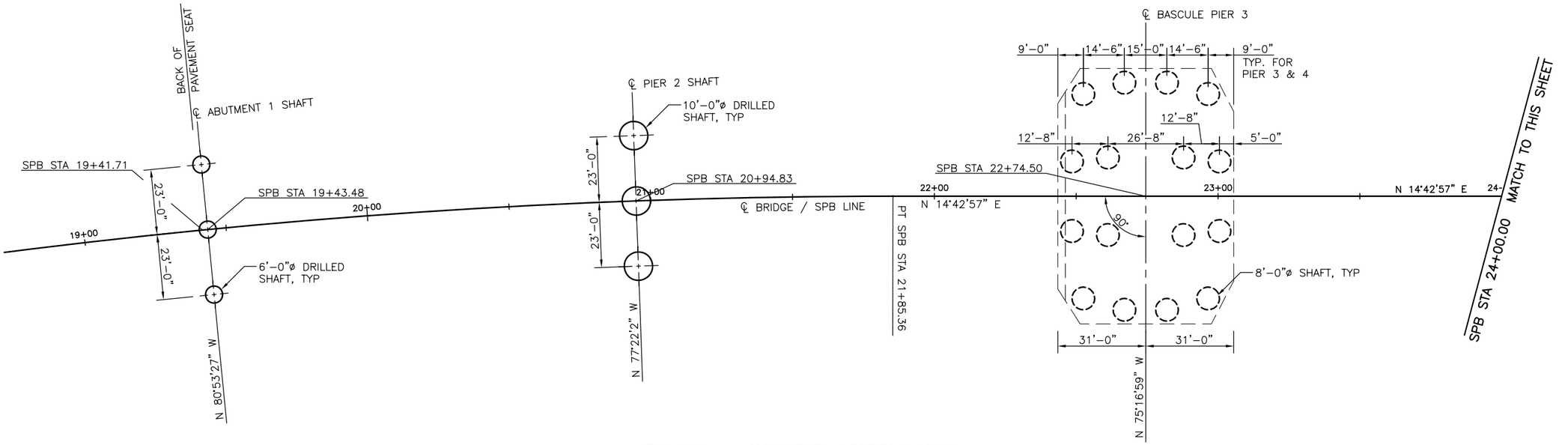
STRUCTURE NOTES, LEGEND & ABBREVIATIONS

King County

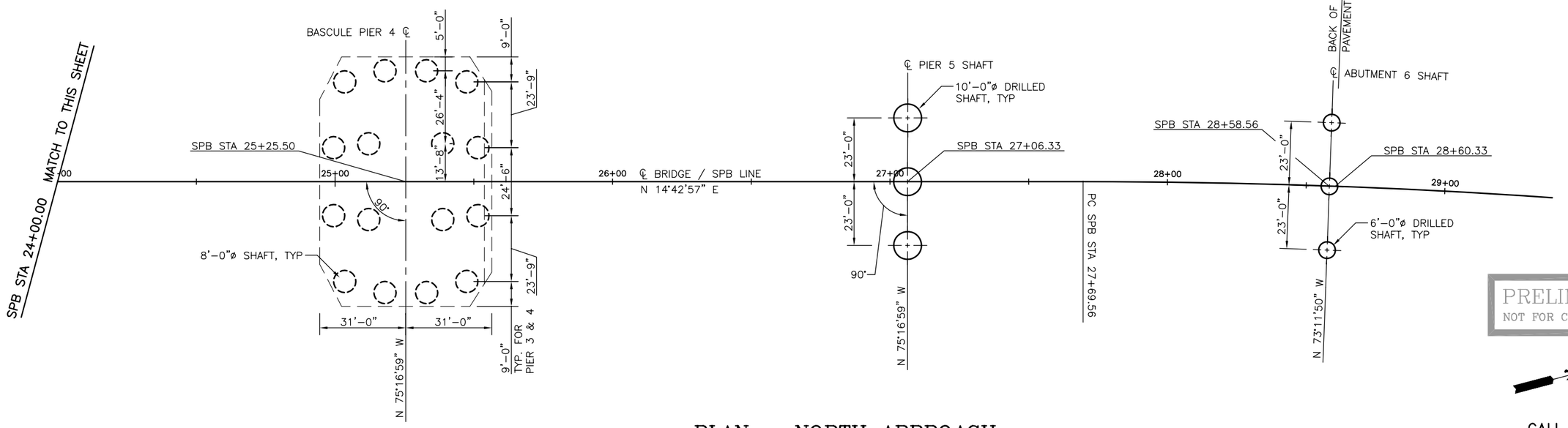
SHEET 23 OF 59 SHEETS

316–63 (23)

J:\2531757 S Park Movable Br\CADD\STRC\SHT\SPK–SHT023.dwg Aug 14, 2007 – 2:13pm



PLAN – SOUTH APPROACH



PLAN – NORTH APPROACH

NOTE: SEE SHEET 22 FOR SPB LINE CURVE DATA

PRELIMINARY
NOT FOR CONSTRUCTION

CALL 2 WORKING DAYS BEFORE YOU DIG
1-800-424-5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

J:\2531757 S Park Movable Br\CADD\STRC\SHT\SPK-SHT024.dwg Aug 14, 2007 - 2:15pm

FIELD BOOK:					
SURVEYED:					
SURVEY BASE MAP:					
DESIGN ENTERED:	06/2007				
DESIGNED C. BINKLEY/M. MAIN	06/2007				
CHECKED: F. HAN	06/2007				
SUPERVISOR:		NUM.	REVISION	BY	DATE

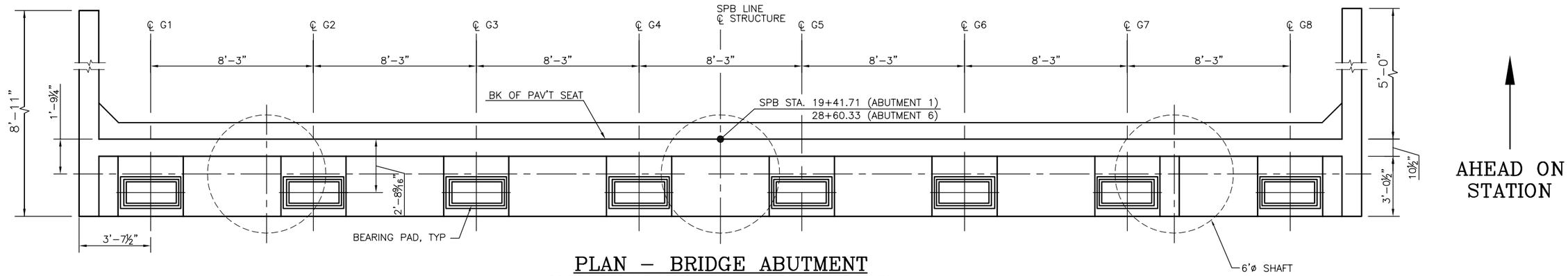
PBQD, INC 100 YEARS
999 THIRD AVE. #2200
SEATTLE, WA 98104

FED. AID No.
PROJECT No. 300197
SURVEY No. 32-24-4-22
MAINTENANCE DIVISION No.

YUHE YANG
STATE OF WASHINGTON
29940
REGISTERED PROFESSIONAL ENGINEER
EXPIRES 6/27/07

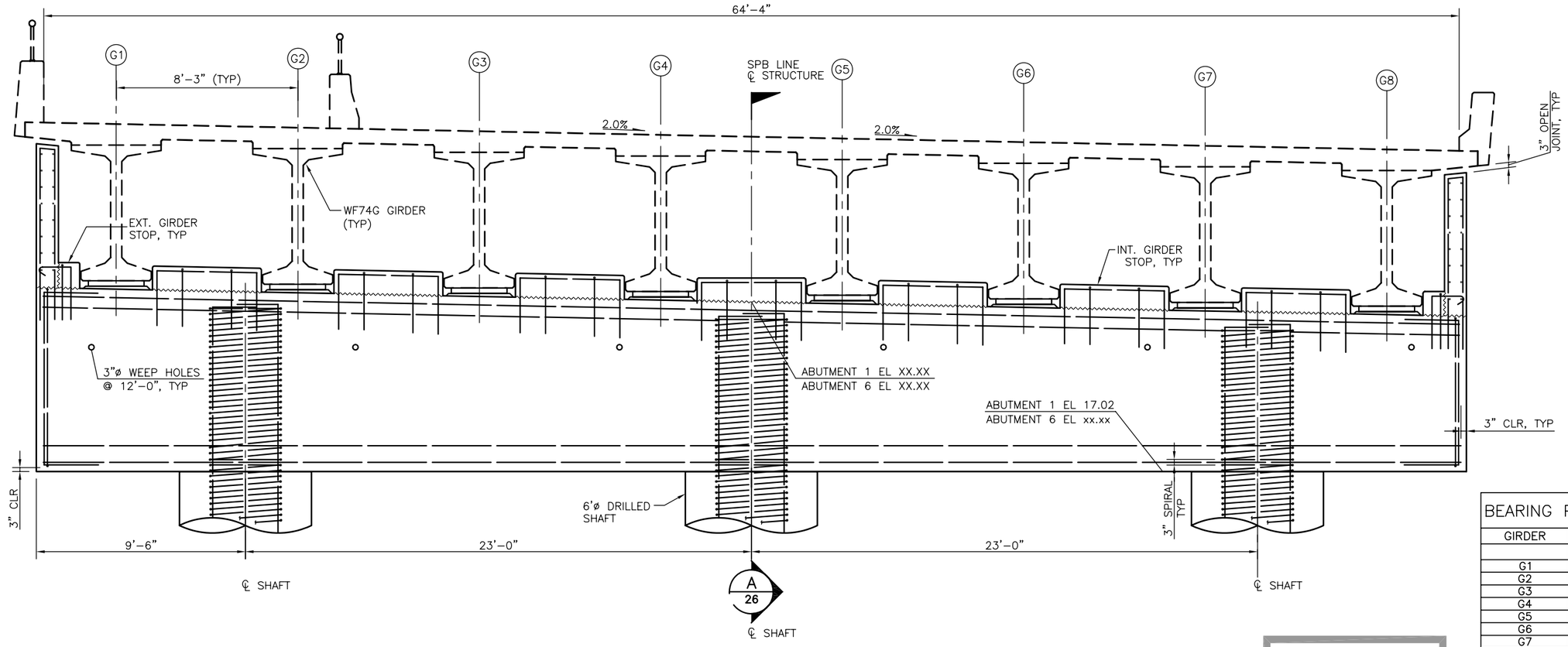
KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR
SOUTH PARK BRIDGE #3179 REPLACEMENT
FOUNDATION LAYOUT

King County
SHEET 24 OF 59 SHEETS
316-63 (24)



PLAN – BRIDGE ABUTMENT

ROADWAY SLAB AND GIRDERS FROM ADJACENT SPANS NOT SHOWN
ABUTMENT 6 SHOWN. ABUTMENT 1 SIMILAR



ELEVATION – BRIDGE ABUTMENT

ABUTMENT 6 SHOWN. ABUTMENT 1 SIMILAR

BEARING PAD TOP ELEVATIONS		
GIRDER	LOCATION	
	ABUTMENT 1	ABUTMENT 6
G1	XX.XX	XX.XX
G2	XX.XX	XX.XX
G3	XX.XX	XX.XX
G4	XX.XX	XX.XX
G5	XX.XX	XX.XX
G6	XX.XX	XX.XX
G7	XX.XX	XX.XX
G8	XX.XX	XX.XX

PRELIMINARY
NOT FOR CONSTRUCTION

CALL 2 WORKING
DAYS BEFORE YOU DIG
1–800–424–5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

J:\2531757 S Park Movable Br\CADD\STRC\SHT\SPK-SHT025.dwg Aug 14, 2007 - 2:21pm

FIELD BOOK:			
SURVEYED:			
SURVEY BASE MAP:			
DESIGN ENTERED:	06/2007		
DESIGNED C. BINKLEY	60/2007		
CHECKED: F. HAN	06/2007		
SUPERVISOR:			

NUM.	REVISION	BY	DATE

PB
PBQD, INC
999 THIRD AVE. #2200
SEATTLE, WA 98104

FED. AID No.
PROJECT No. 300197
SURVEY No. 32–24–4–22
MAINTENANCE DIVISION No.

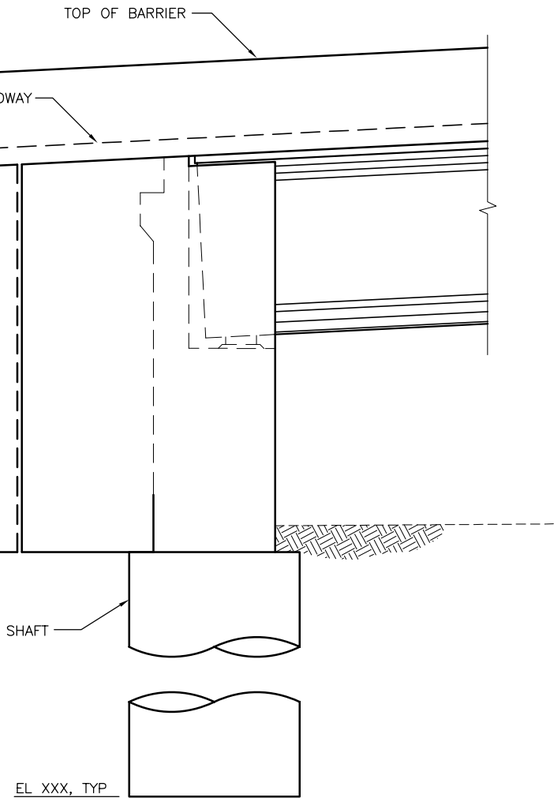
YUHE YANG
STATE OF WASHINGTON
29940
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 6/27/07

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR
SOUTH PARK BRIDGE #3179
REPLACEMENT
APPROACH STRUCTURE
ABUTMENT 1 & 6

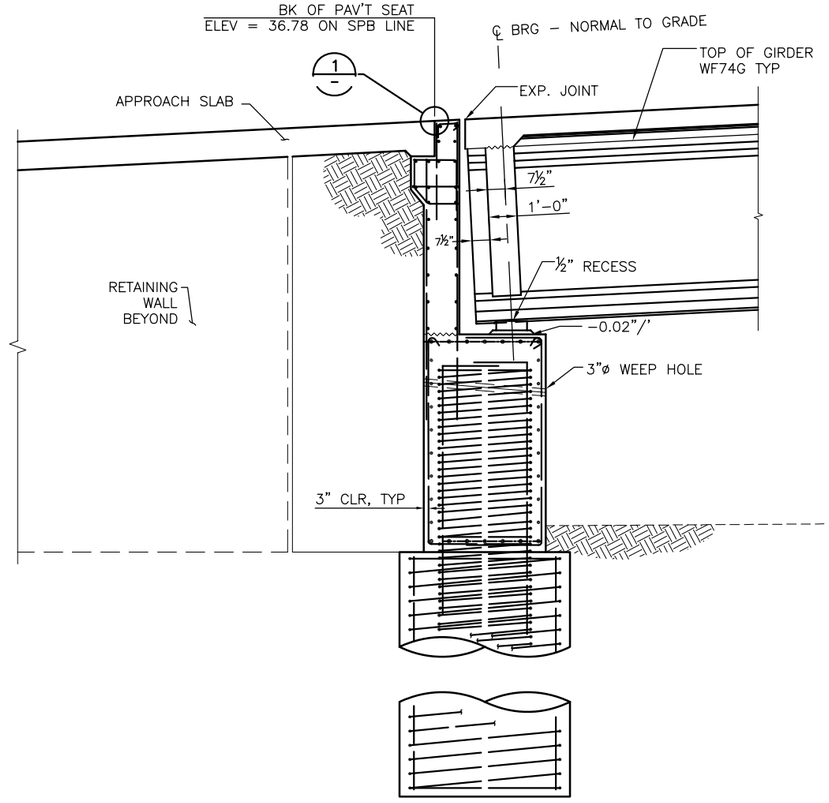
King County

SHEET 25 OF 59 SHEETS

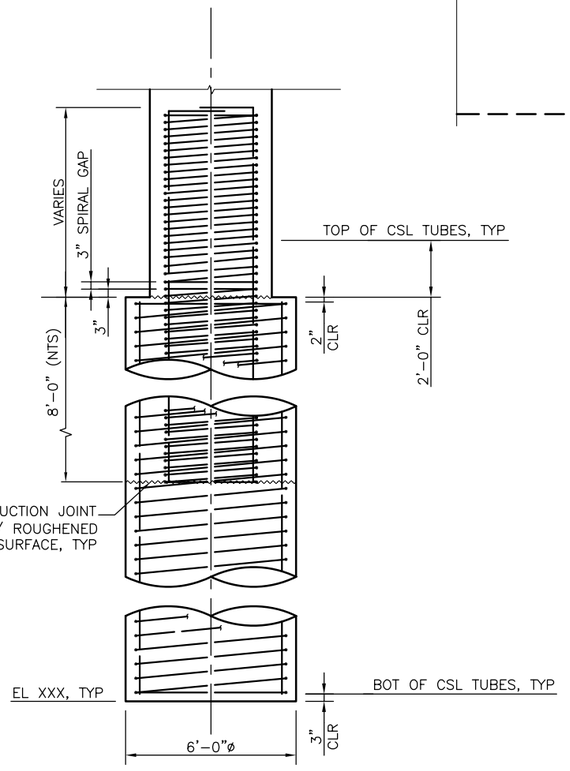
316–63 (25)



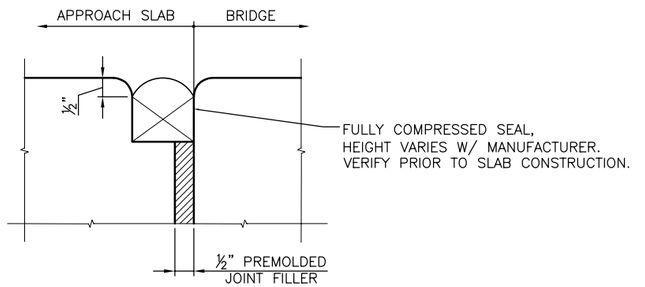
ABUTMENT 1
EAST ELEVATION



A/25 ABUTMENT 1 SECTION



TYPICAL ABUTMENT
DRILLED SHAFT



1/– DETAIL – COMPRESSION SEAL

PRELIMINARY
NOT FOR CONSTRUCTION

CALL 2 WORKING DAYS BEFORE YOU DIG
1–800–424–5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

J:\253157 S Park Movable Br\CADD\STRC\SHT\SPK–SHT026.dwg Aug 14, 2007 – 2:23pm

FIELD BOOK:					
SURVEYED:					
SURVEY BASE MAP:					
DESIGN ENTERED:	06/2007				
DESIGNED C. BINKLEY	06/2007				
CHECKED: F. HAN	06/2007				
SUPERVISOR:		NUM.	REVISION	BY	DATE

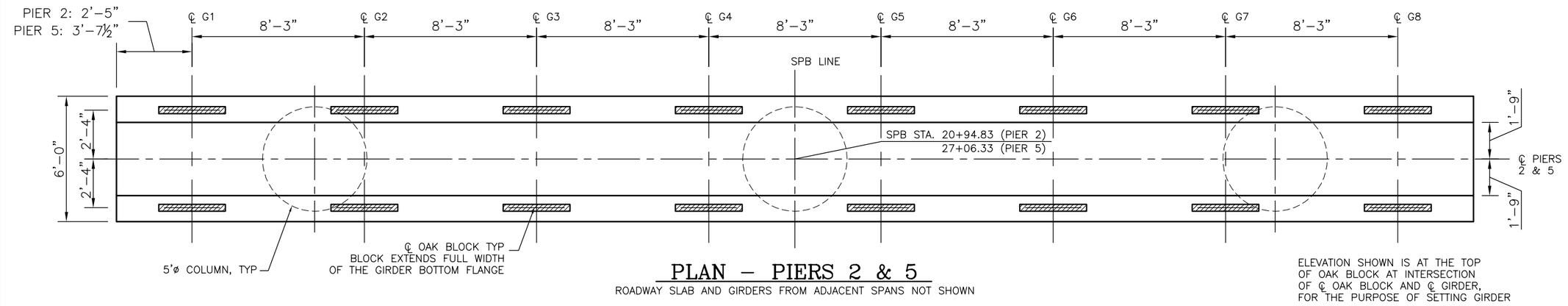
PB 100 YEARS
PBQD, INC
999 THIRD AVE. #2200
SEATTLE, WA 98104

FED. AID No.
PROJECT No. 300197
SURVEY No. 32–24–4–22
MAINTENANCE DIVISION No.

YUHE YANG
STATE OF WASHINGTON
28940
REGISTERED PROFESSIONAL ENGINEER
EXPIRES 6/27/07

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR
SOUTH PARK BRIDGE #3179 REPLACEMENT
APPROACH STRUCTURE
ABUTMENT 1 & 6 DETAILS

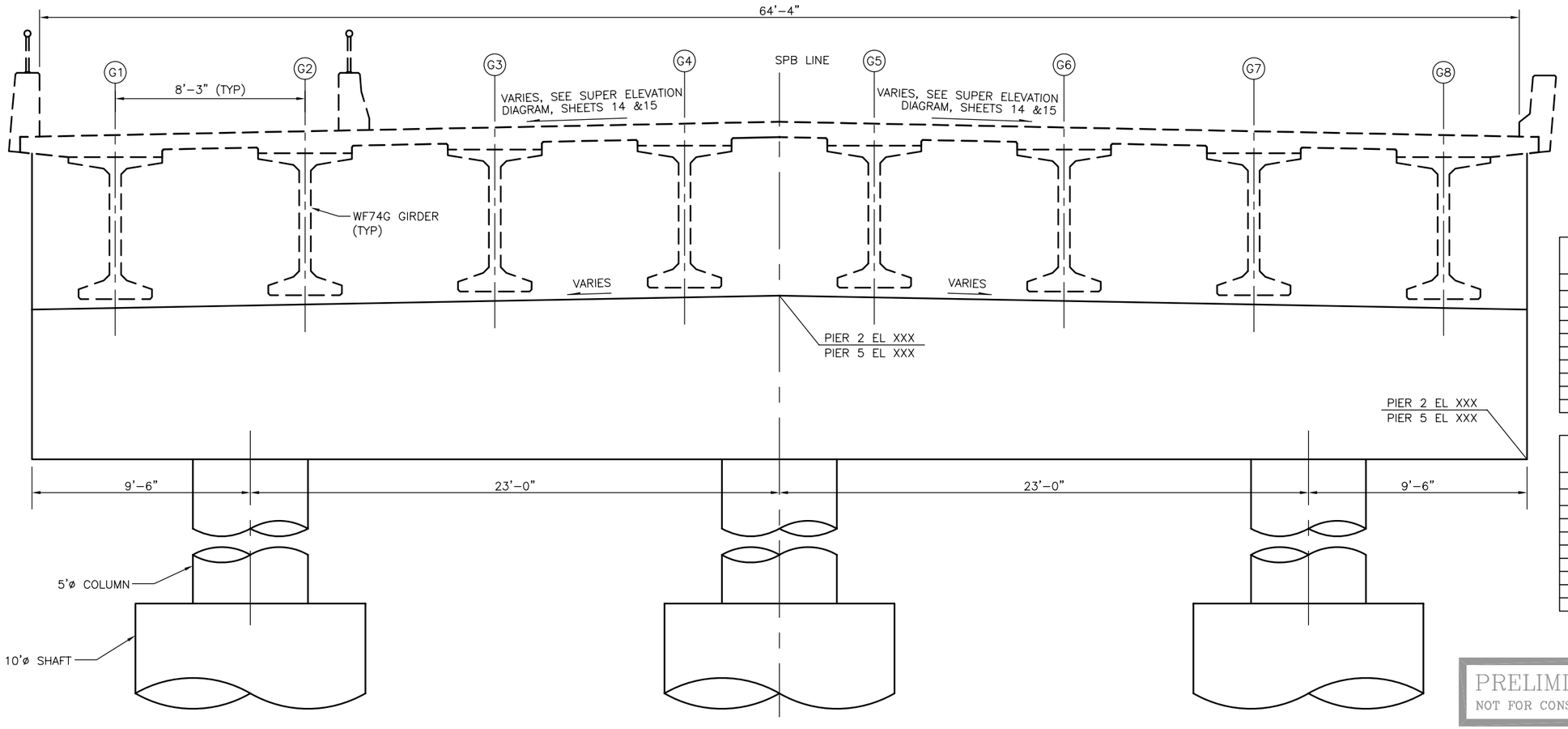
King County
SHEET 26 OF 59 SHEETS
316–63 (26)



PLAN – PIERS 2 & 5

ROADWAY SLAB AND GIRDERS FROM ADJACENT SPANS NOT SHOWN

ELEVATION SHOWN IS AT THE TOP OF OAK BLOCK AT INTERSECTION OF ℄ OAK BLOCK AND ℄ GIRDER, FOR THE PURPOSE OF SETTING GIRDER



ELEVATION – PIERS 2 & 5

LOOKING AHEAD STATION

AHEAD STATION OAK BLOCK TOP ELEVATIONS		
GIRDER	LOCATION	
	PIER 2	PIER 5
G1	XX.XX	XX.XX
G2	XX.XX	XX.XX
G3	XX.XX	XX.XX
G4	XX.XX	XX.XX
G5	XX.XX	XX.XX
G6	XX.XX	XX.XX
G7	XX.XX	XX.XX
G8	XX.XX	XX.XX

BACK STATION OAK BLOCK TOP ELEVATIONS		
GIRDER	LOCATION	
	PIER 2	PIER 5
G1	XX.XX	XX.XX
G2	XX.XX	XX.XX
G3	XX.XX	XX.XX
G4	XX.XX	XX.XX
G5	XX.XX	XX.XX
G6	XX.XX	XX.XX
G7	XX.XX	XX.XX
G8	XX.XX	XX.XX

PRELIMINARY
NOT FOR CONSTRUCTION

CALL 2 WORKING DAYS BEFORE YOU DIG
1–800–424–5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

FIELD BOOK:					
SURVEYED:					
SURVEY BASE MAP:					
DESIGN ENTERED:	06/2007				
DESIGNED C. BINKLEY	06/2007				
CHECKED: F. HAN	06/2007				
SUPERVISOR:		NUM.	REVISION	BY	DATE

PBQD, INC 100 YEARS
999 THIRD AVE. #2200
SEATTLE, WA 98104

FED. AID No.
PROJECT No. 300197
SURVEY No. 32–24–4–22
MAINTENANCE DIVISION No.

YUHE YANG
STATE OF WASHINGTON
20940
REGISTERED PROFESSIONAL ENGINEER
EXPIRES 6/27/07

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR

SOUTH PARK BRIDGE #3179 REPLACEMENT

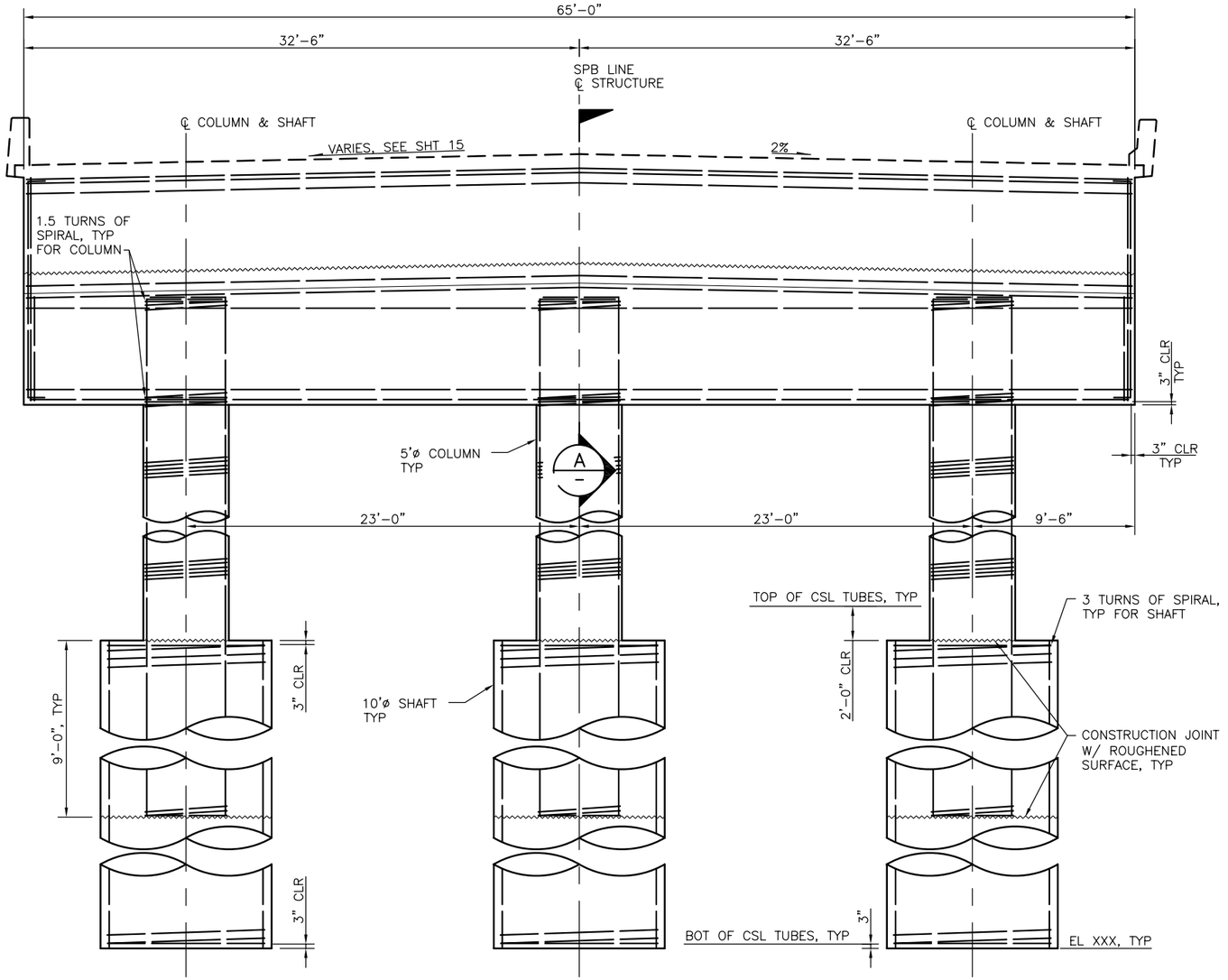
APPROACH STRUCTURE
PIERS 2 & 5

King County

SHEET 27 OF 59 SHEETS

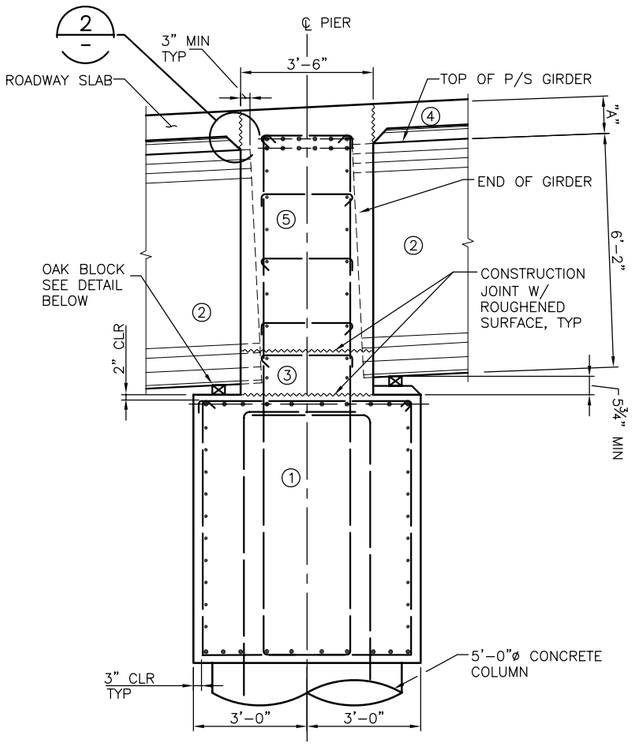
316–63 (27)

J:\25317S7 S Park Movable Br\CADD\STRC\SHT\SPK–SHT027.dwg Aug 14, 2007 – 2:24pm



ELEVATION – FIXED PIER REINFORCEMENT

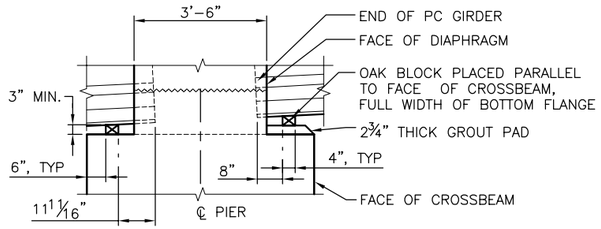
LOOKING AHEAD STATION



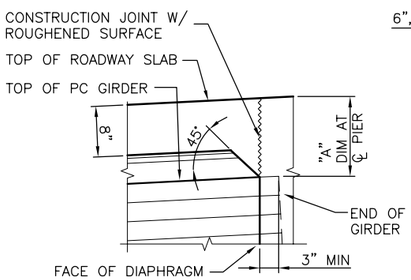
A – SECTION – TYPICAL CROSS BEAM

CONSTRUCTION SEQUENCE:

1. CROSSBEAM
2. PLACE GIRDER ON BLOCKS
3. DIAPHRAGM FIRST POUR
4. ROADWAY SLAB
5. COMPLETE DIAPHRAGM



OAK BLOCK DETAIL



2 – DETAIL

NOTE: SIDEWALK AND BARRIERS NOT SHOWN.

PRELIMINARY
NOT FOR CONSTRUCTION

55

FIELD BOOK:					
SURVEYED:					
SURVEY BASE MAP:					
DESIGN ENTERED:	06/2007				
DESIGNED C. BINKLEY	06/2007				
CHECKED: F. HAN	06/2007				
SUPERVISOR:		NUM.	REVISION	BY	DATE

PBQD, INC 100 YEARS
999 THIRD AVE. #2200
SEATTLE, WA 98104

FED. AID No.
PROJECT No. 300197
SURVEY No. 32-24-4-22
MAINTENANCE DIVISION No.

YUHE YANG
STATE OF WASHINGTON
29940
REGISTERED PROFESSIONAL ENGINEER
EXPIRES 6/27/07

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR

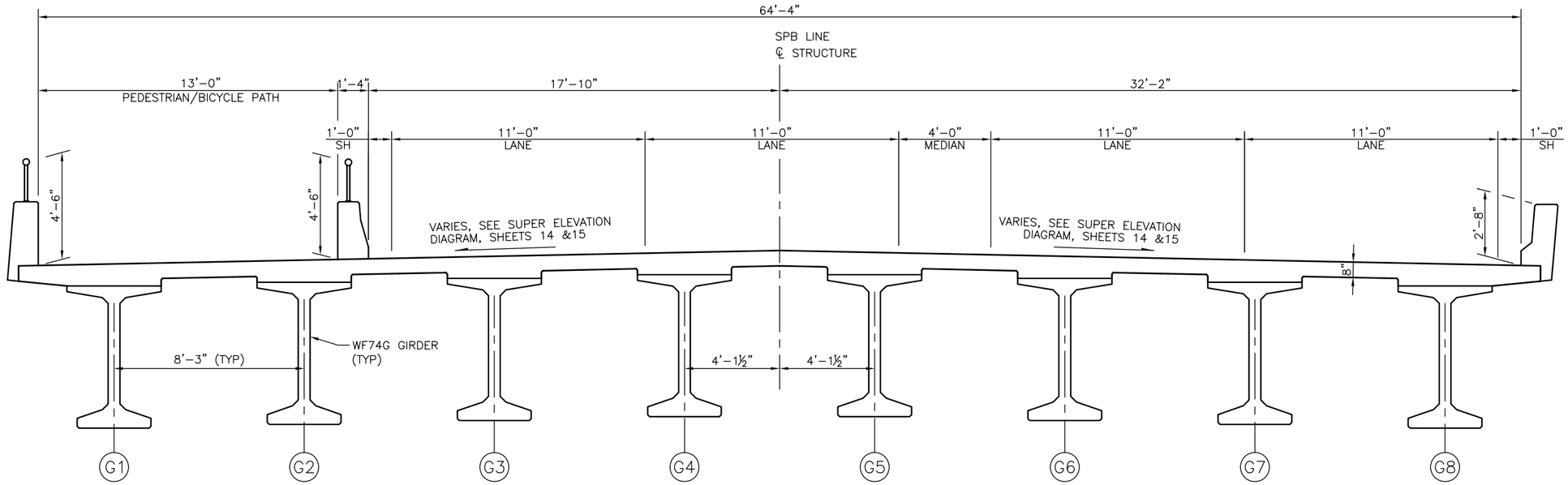
SOUTH PARK BRIDGE #3179 REPLACEMENT

APPROACH STRUCTURE
PIERS 2 & 5 DETAILS

King County

28
59
316-63 (28)

J:\2531757 S Park Movable Br\CADD\STRC\SHT\SPK-SHT028.dwg Aug 14, 2007 - 2:24pm



APPROACH STRUCTURE – TYPICAL SECTION

LOOKING AHEAD ON STATION

PRELIMINARY
NOT FOR CONSTRUCTION

CALL 2 WORKING
DAYS BEFORE YOU DIG
1–800–424–5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

J:\253757 S Park Movable Br\CADD\STRC\SHT\SPK–SHT029.dwg Aug 14, 2007 – 2:25pm

FIELD BOOK:					
SURVEYED:					
SURVEY BASE MAP:					
DESIGN ENTERED:	06/2007				
DESIGNED C.BINKLEY	06/2007				
CHECKED: F. HAN	06/2007				
SUPERVISOR:		NUM.	REVISION	BY	DATE

PBQD, INC 100 YEARS
999 THIRD AVE. #2200
SEATTLE, WA 98104

FED. AID No.

PROJECT No. 300197

SURVEY No. 32–24–4–22

MAINTENANCE DIVISION No.

YUHE YANG
STATE OF WASHINGTON
29940
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 6/27/07

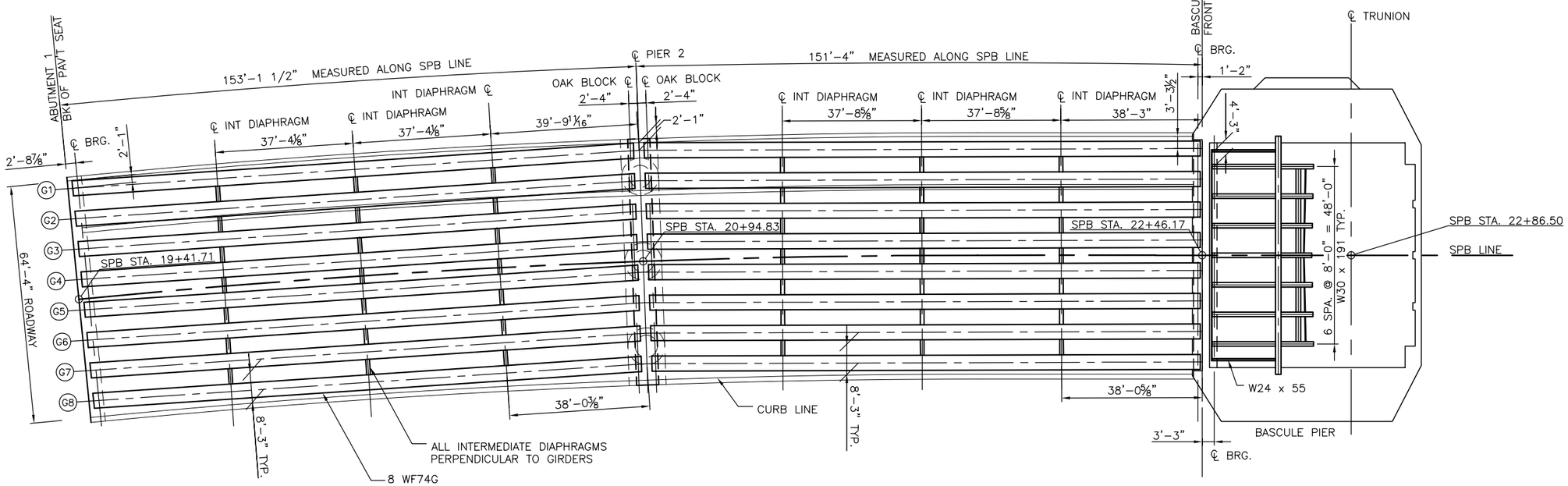
KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR

SOUTH PARK BRIDGE #3179
REPLACEMENT
APPROACH STRUCTURE
TYPICAL SECTION

King County

SHEET 29 OF 59 SHEETS

316–63 (29)



PRELIMINARY
NOT FOR CONSTRUCTION

CALL 2 WORKING
DAYS BEFORE YOU DIG
1-800-424-5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

FIELD BOOK:					
SURVEYED:					
SURVEY BASE MAP:					
DESIGN ENTERED:	06/2007				
DESIGNED C. BINKLEY	06/2007				
CHECKED: F. HAN	06/2007				
SUPERVISOR:		NUM.	REVISION	BY	DATE

PB 100 YEARS
PBQD, INC
999 THIRD AVE. #2200
SEATTLE, WA 98104

FED. AID No.
PROJECT No. 300197
SURVEY No. 32-24-4-22
MAINTENANCE DIVISION No.

YUHE YANG
STATE OF WASHINGTON
29940
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 6/27/07

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR
SOUTH PARK BRIDGE #3179 REPLACEMENT
SOUTH APPROACH
GIRDER FRAMING PLAN

King County
SHEET 30 OF 59 SHEETS
316-63 (30)

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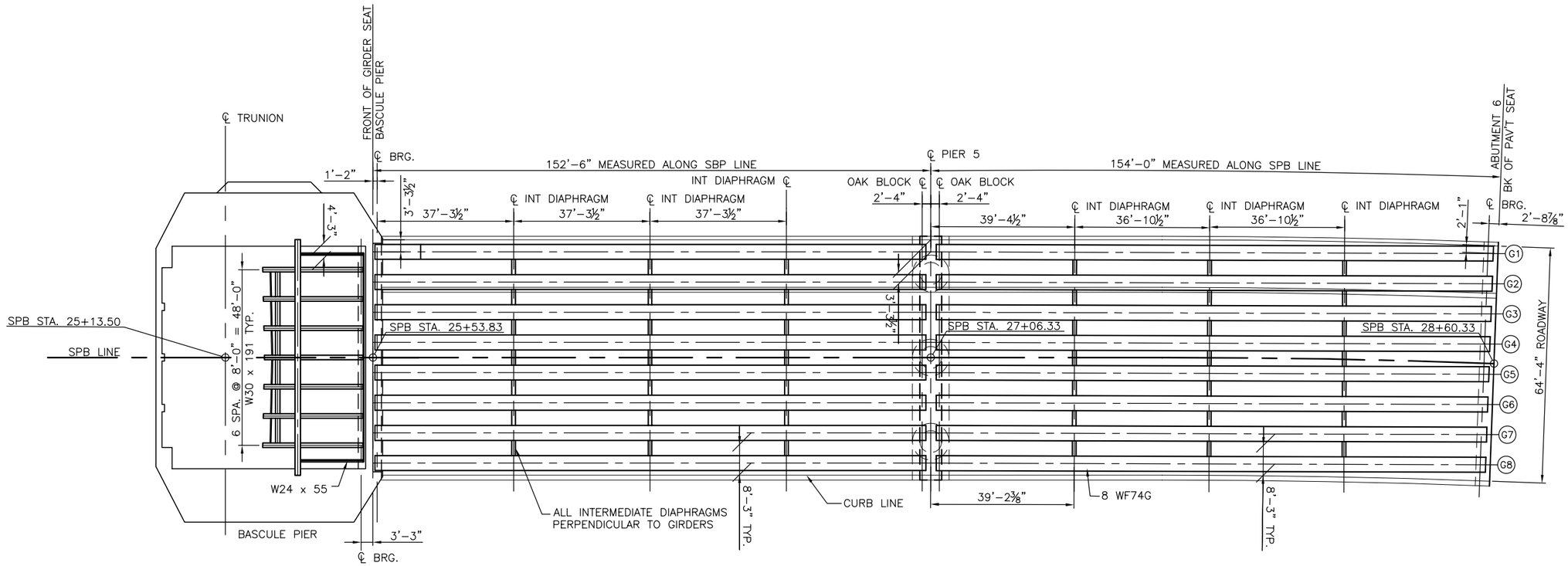

PRELIMINARY
NOT FOR CONSTRUCTION

CALL 2 WORKING
DAYS BEFORE YOU DIG
1–800–424–5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

FIELD BOOK:					
SURVEYED:					
SURVEY BASE MAP:					
DESIGN ENTERED:	06/2007				
DESIGNED C. BINKLEY	06/2007				
CHECKED: F. HAN	06/2007				
SUPERVISOR:		NUM.	REVISION	BY	DATE

PBQD, INC 100 YEARS
999 THIRD AVE. #2200
SEATTLE, WA 98104

FED. AID No.
PROJECT No. 300197
SURVEY No. 32–24–4–22
MAINTENANCE DIVISION No.

YUHE YANG
STATE OF WASHINGTON
23940
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 6/27/07

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR

SOUTH PARK BRIDGE #3179 REPLACEMENT

NORTH APPROACH
GIRDER FRAMING PLAN

King County

SHEET 31 OF 59 SHEETS

316–63 (31)

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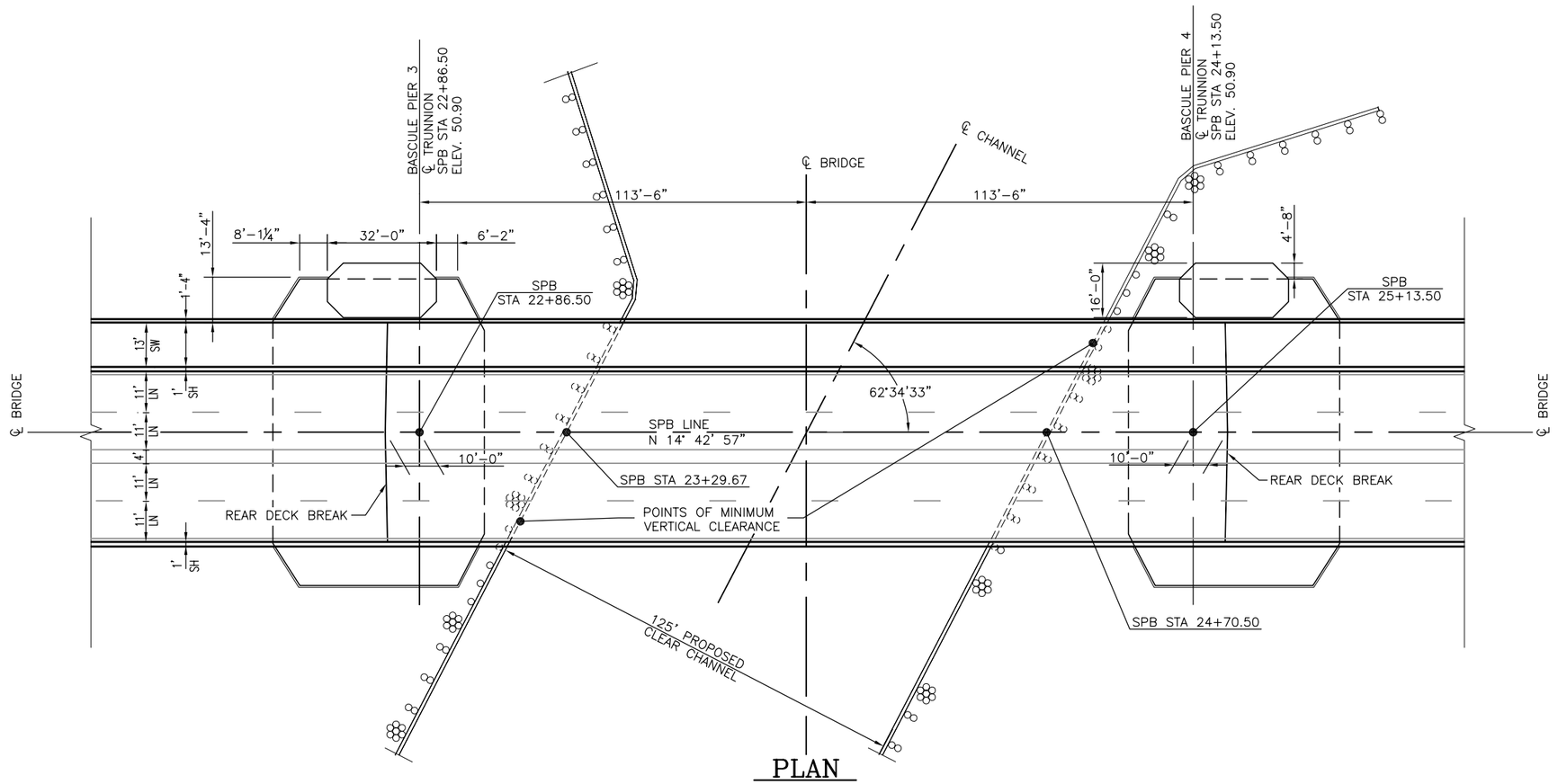
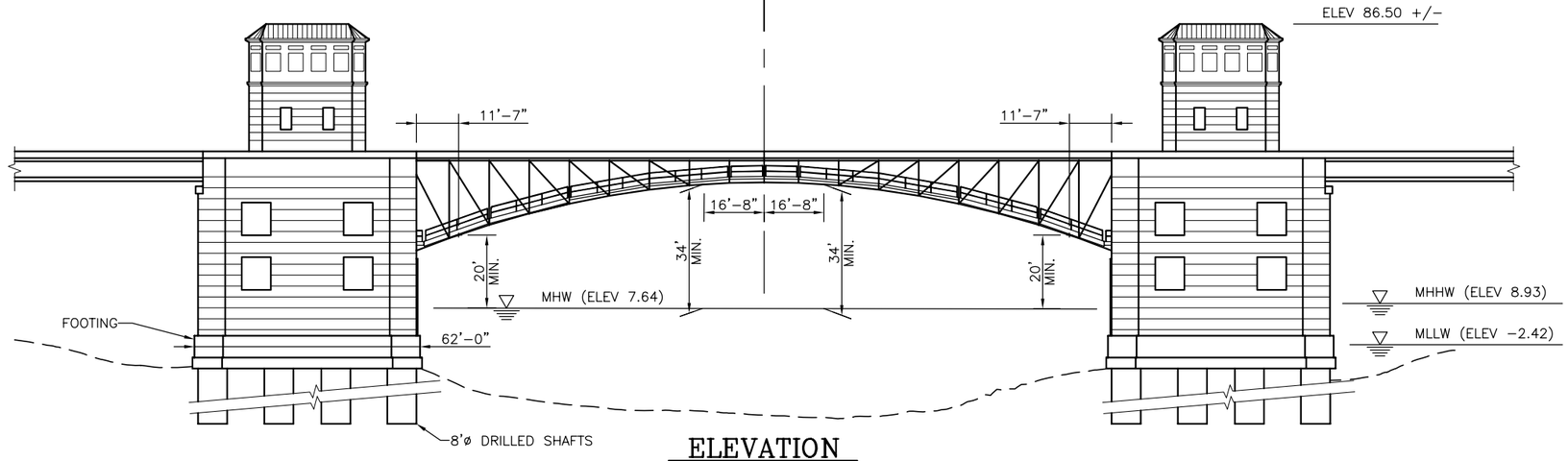


PLAN



ELEVATION

DATUM

N.A.V.D. OF 1988

PRELIMINARY
NOT FOR CONSTRUCTION

CALL 2 WORKING
DAYS BEFORE YOU DIG
1-800-424-5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

FIELD BOOK:					
SURVEYED:					
SURVEY BASE MAP:					
DESIGN ENTERED:	06/2007				
DESIGNED F. HAN	06/2007				
CHECKED: C. BINKLEY	06/2007				
SUPERVISOR:		NUM.	REVISION	BY	DATE

PBQD, INC 100 YEARS
999 THIRD AVE. #2200
SEATTLE, WA 98104

FED. AID No.

PROJECT No. 300197

SURVEY No. 32-24-4-22

MAINTENANCE DIVISION No.

YUHE YANG
STATE OF WASHINGTON
29940
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 6/27/07

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR

SOUTH PARK BRIDGE #3179 REPLACEMENT

BASCULE SPAN
PLAN AND ELEVATION

King County

SHEET 32 OF 59 SHEETS

316-63 (32)

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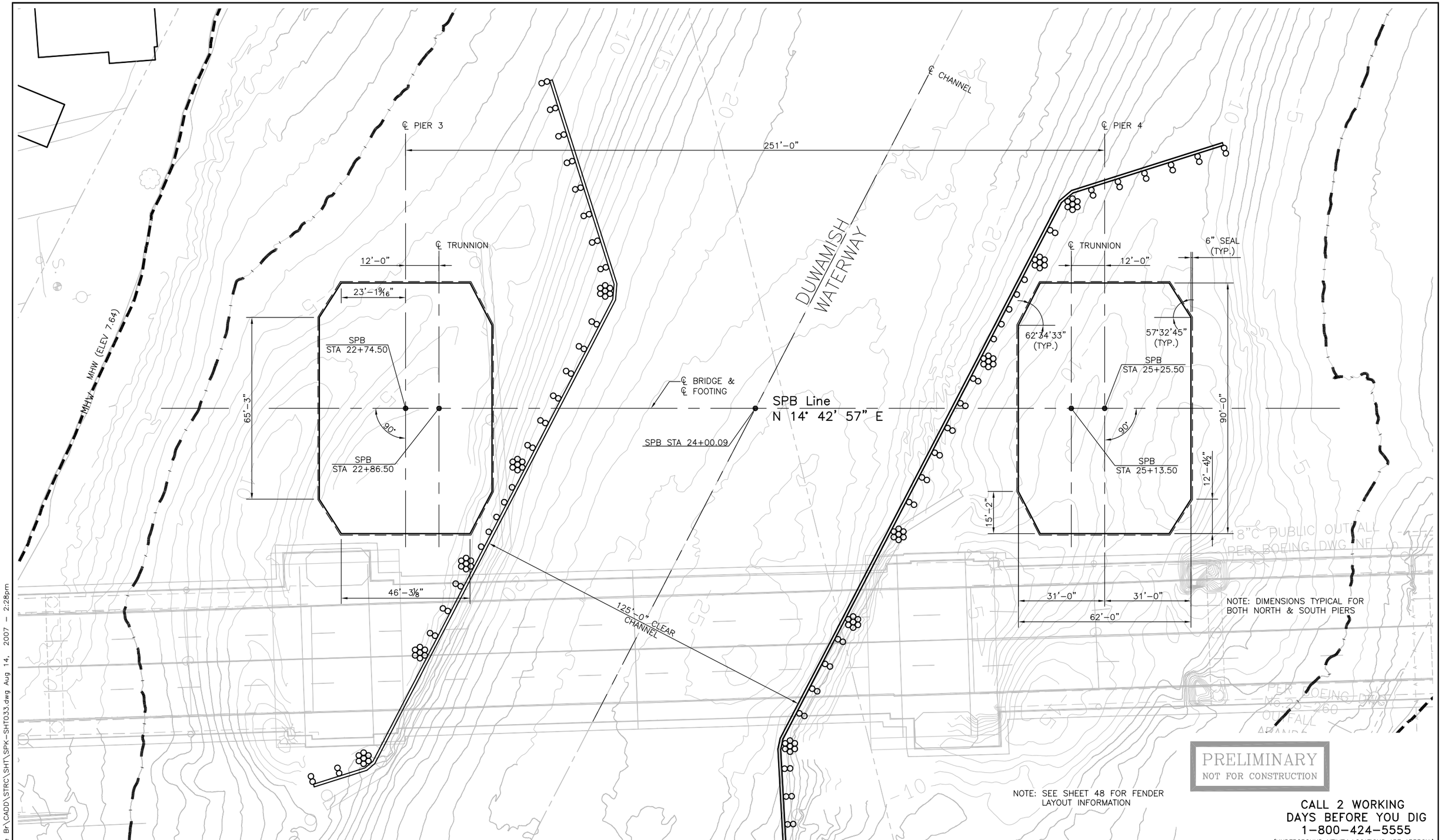


CALL 2 WORKING DAYS BEFORE YOU DIG
1-800-424-5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

J:\25317S7 S Park Movable Br\CADD\STRC\SHT\SPK-SHT033.dwg Aug 14, 2007 - 2:28pm

FIELD BOOK:		
SURVEYED:		
SURVEY BASE MAP:		
DESIGN ENTERED:		06/2007
DESIGNED	F. HAN	06/2007
CHECKED:	C. BINKLEY	06/2007
SUPERVISOR:		

NUM.	REVISION	BY	DATE

PB 100 YEARS
PBQD, INC
999 THIRD AVE. #2200
SEATTLE, WA 98104

FED. AID No.
PROJECT No. 300197
SURVEY No. 32-24-4-22
MAINTENANCE DIVISION No.

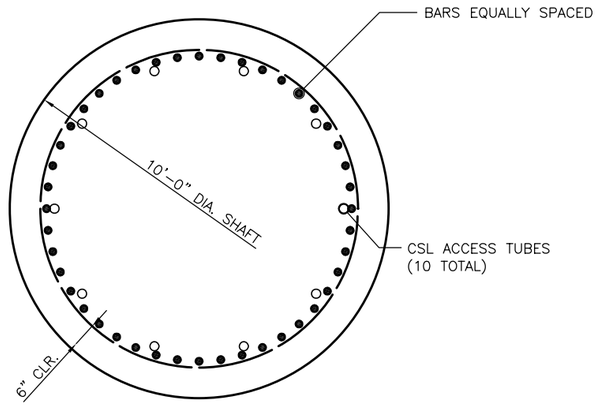
YUHE YANG
STATE OF WASHINGTON
29940
REGISTERED PROFESSIONAL ENGINEER
EXPIRES 6/27/07

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR
SOUTH PARK BRIDGE #3179
REPLACEMENT
BACULE PIER FOUNDATION LAYOUT

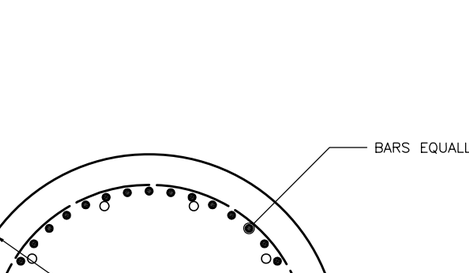
King County

SHEET 33 OF 59 SHEETS

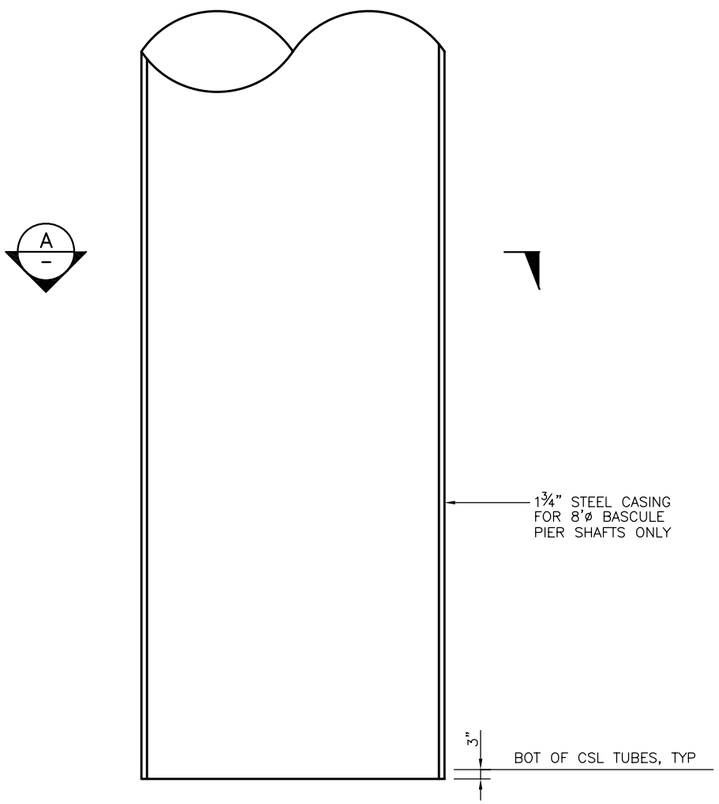
316-63 (33)



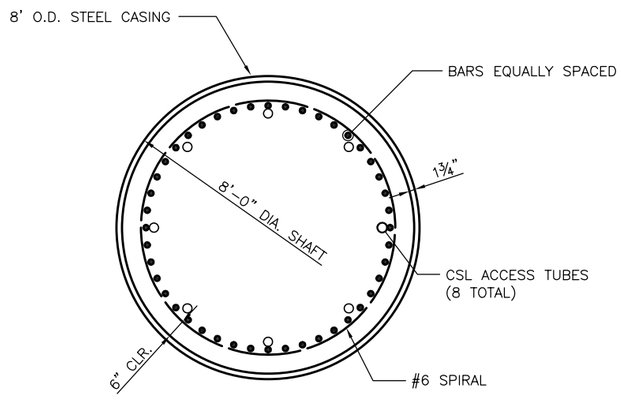
APPROACH PIER
SHAFT SECTION



ABUTMENT PIER
SHAFT SECTION



BASCULE PIER SHAFT
TYPICAL ELEVATION



A SECTION

PRELIMINARY
NOT FOR CONSTRUCTION

CALL 2 WORKING
DAYS BEFORE YOU DIG
1-800-424-5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

FIELD BOOK:					
SURVEYED:					
SURVEY BASE MAP:					
DESIGN ENTERED:	06/2007				
DESIGNED	M. MAIN 06/2007				
CHECKED:	C. BINKLEY 06/2007				
SUPERVISOR:		NUM.	REVISION	BY	DATE

PBQD, INC
999 THIRD AVE. #2200
SEATTLE, WA 98104

FED. AID No.

PROJECT No. 300197

SURVEY No. 32-24-4-22

MAINTENANCE DIVISION No.

YUHE YANG
STATE OF WASHINGTON
29940
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 6/27/07

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR
SOUTH PARK BRIDGE #3179
REPLACEMENT
DRILLED SHAFT

King County

SHEET 34 OF 59 SHEETS

316-63 (34)

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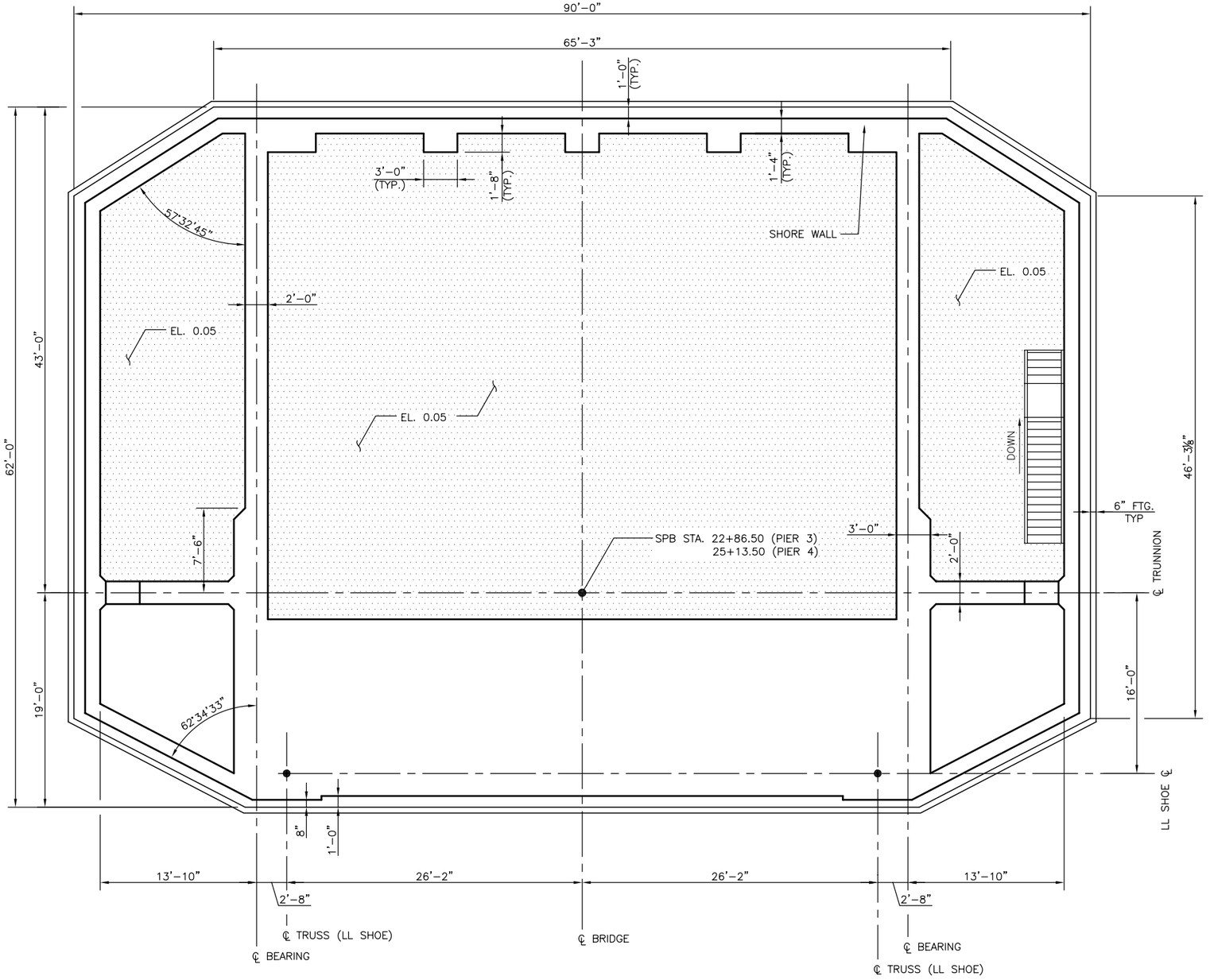


PRELIMINARY
NOT FOR CONSTRUCTION

FIRST FLOOR PLAN – BASCULE PIER

CALL 2 WORKING DAYS BEFORE YOU DIG
1–800–424–5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

J:\2531757 S Park Movable Br\CADD\STRC\SHT\SPK–SHT035.dwg Aug 14, 2007 – 2:29pm

FIELD BOOK:			
SURVEYED:			
SURVEY BASE MAP:			
DESIGN ENTERED:	06/2007		
DESIGNED F. HAN	06/2007		
CHECKED: M. MAIN	06/2007		
SUPERVISOR:			

NUM.	REVISION	BY	DATE

PBQD, INC 100 YEARS
999 THIRD AVE. #2200
SEATTLE, WA 98104

FED. AID No.
PROJECT No. 300197
SURVEY No. 32–24–4–22
MAINTENANCE DIVISION No.

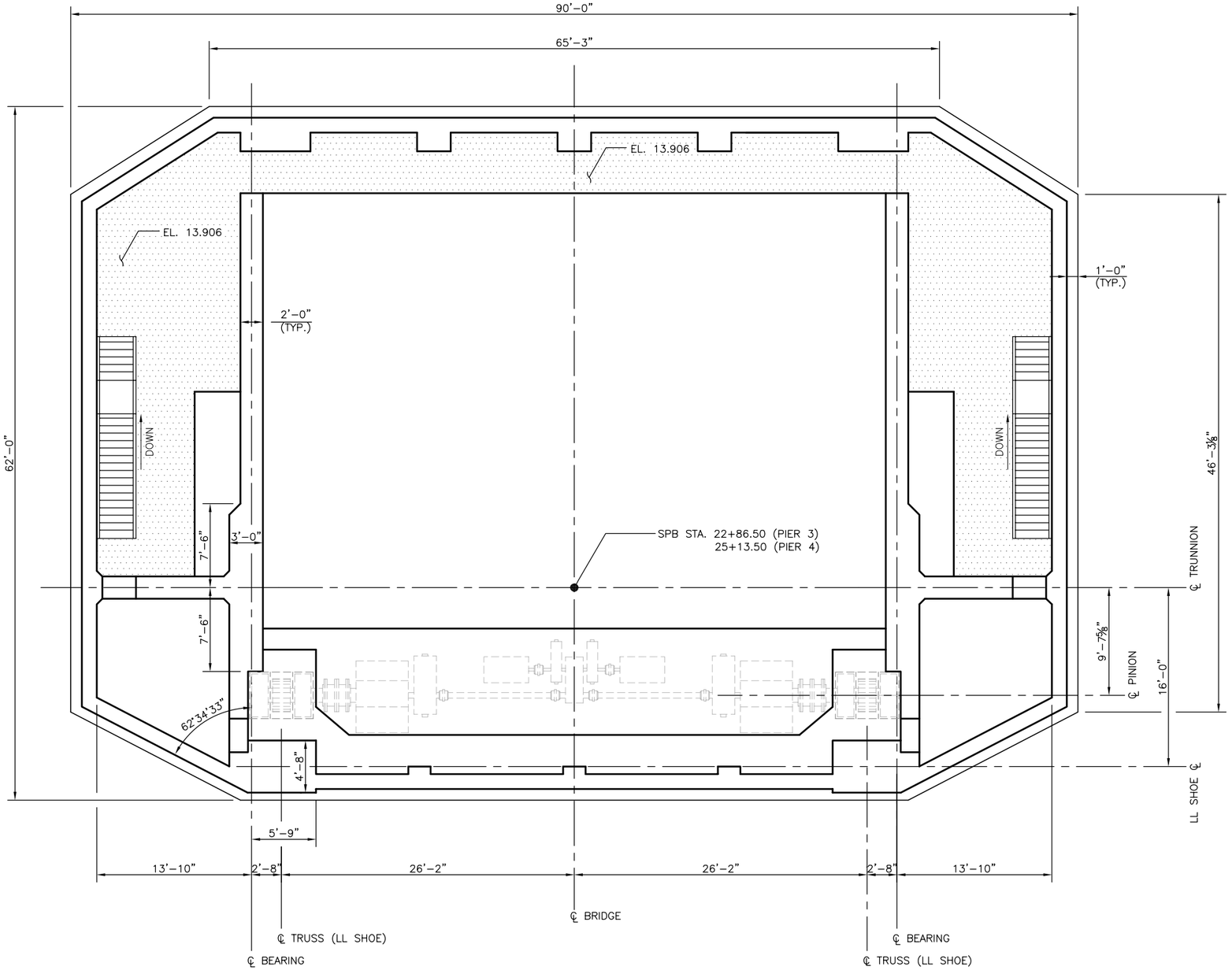
YUHE YANG
STATE OF WASHINGTON
29940
REGISTERED PROFESSIONAL ENGINEER
EXPIRES 6/27/07

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR
SOUTH PARK BRIDGE #3179 REPLACEMENT
BASCULE PIER
FIRST FLOOR

King County

SHEET 35 OF 59 SHEETS

316–63 (35)



PRELIMINARY
NOT FOR CONSTRUCTION

SECOND FLOOR PLAN – BASCULE PIER

CALL 2 WORKING DAYS BEFORE YOU DIG
1-800-424-5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

J:\2531757 S Park Movable Br\CADD\STRC\SHT\SPK-SHT036.dwg Aug 14, 2007 - 2:30pm

FIELD BOOK:					
SURVEYED:					
SURVEY BASE MAP:					
DESIGN ENTERED:	06/2007				
DESIGNED F. HAN	06/2007				
CHECKED: M. MAIN	06/2007				
SUPERVISOR:		NUM.	REVISION	BY	DATE

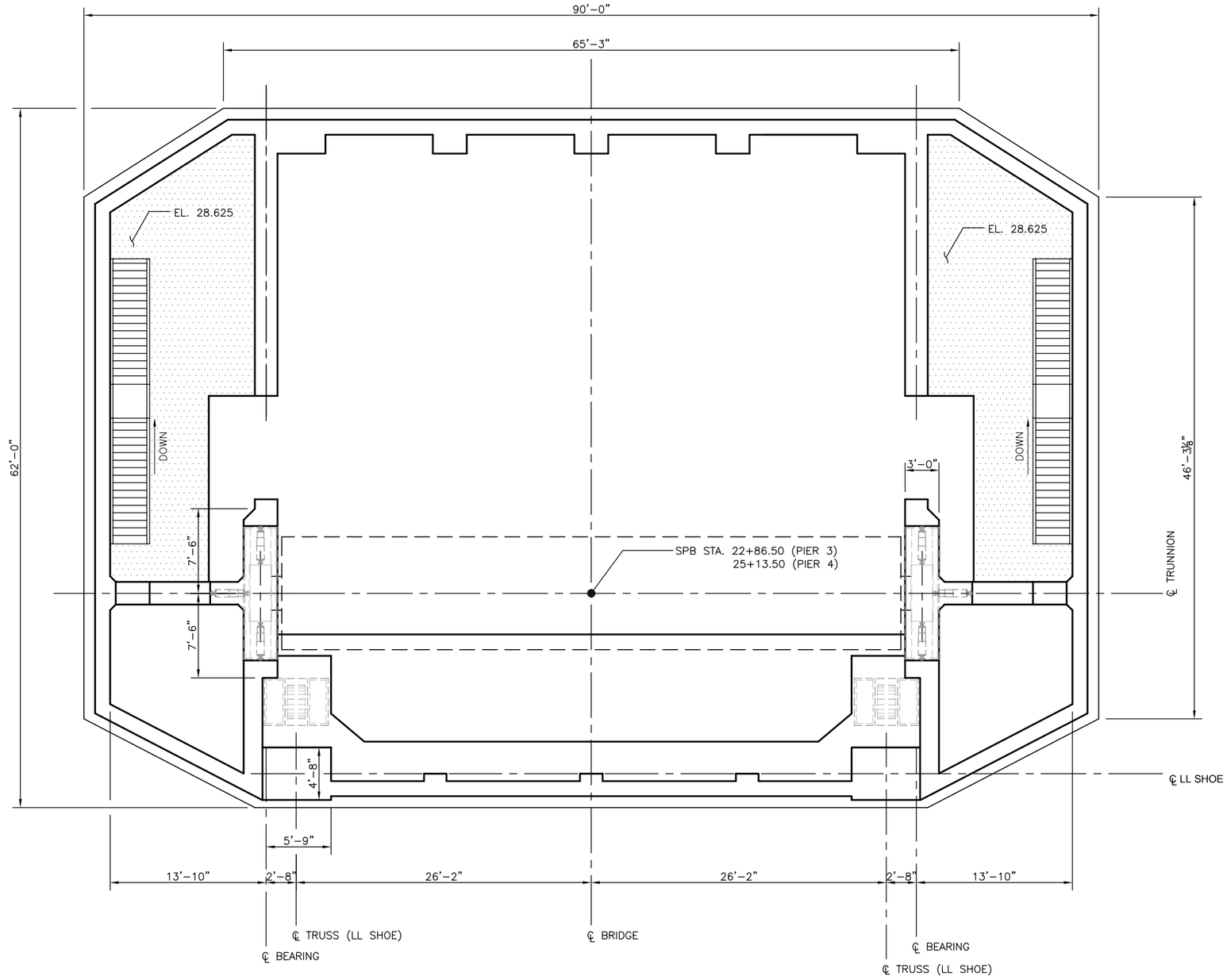
PB 100 YEARS
PBQD, INC
999 THIRD AVE. #2200
SEATTLE, WA 98104

FED. AID No.
PROJECT No. 300197
SURVEY No. 32-24-4-22
MAINTENANCE DIVISION No.

YUHE YANG
STATE OF WASHINGTON
22940
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 6/27/07

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR
SOUTH PARK BRIDGE #3179 REPLACEMENT
BASCULE PIER
SECOND FLOOR

King County
SHEET 36 OF 59 SHEETS
316-63 (36)



THIRD FLOOR PLAN – BASCULE PIER

PRELIMINARY
NOT FOR CONSTRUCTION

CALL 2 WORKING DAYS BEFORE YOU DIG
1-800-424-5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

FIELD BOOK:					
SURVEYED:					
SURVEY BASE MAP:					
DESIGN ENTERED:	06/2007				
DESIGNED F. HAN	06/2007				
CHECKED: M. MAIN	06/2007				
SUPERVISOR:		NUM.	REVISION	BY	DATE

PB
100 YEARS
PBQD, INC
999 THIRD AVE. #2200
SEATTLE, WA 98104

FED. AID No.
PROJECT No. 300197
SURVEY No. 32-24-4-22
MAINTENANCE DIVISION No.

YUHE YANG
STATE OF WASHINGTON
22940
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 6/27/07

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR
SOUTH PARK BRIDGE #3179 REPLACEMENT
BASCULE PIER
THIRD FLOOR

King County
SHEET 37 OF 59 SHEETS
316-63 (37)

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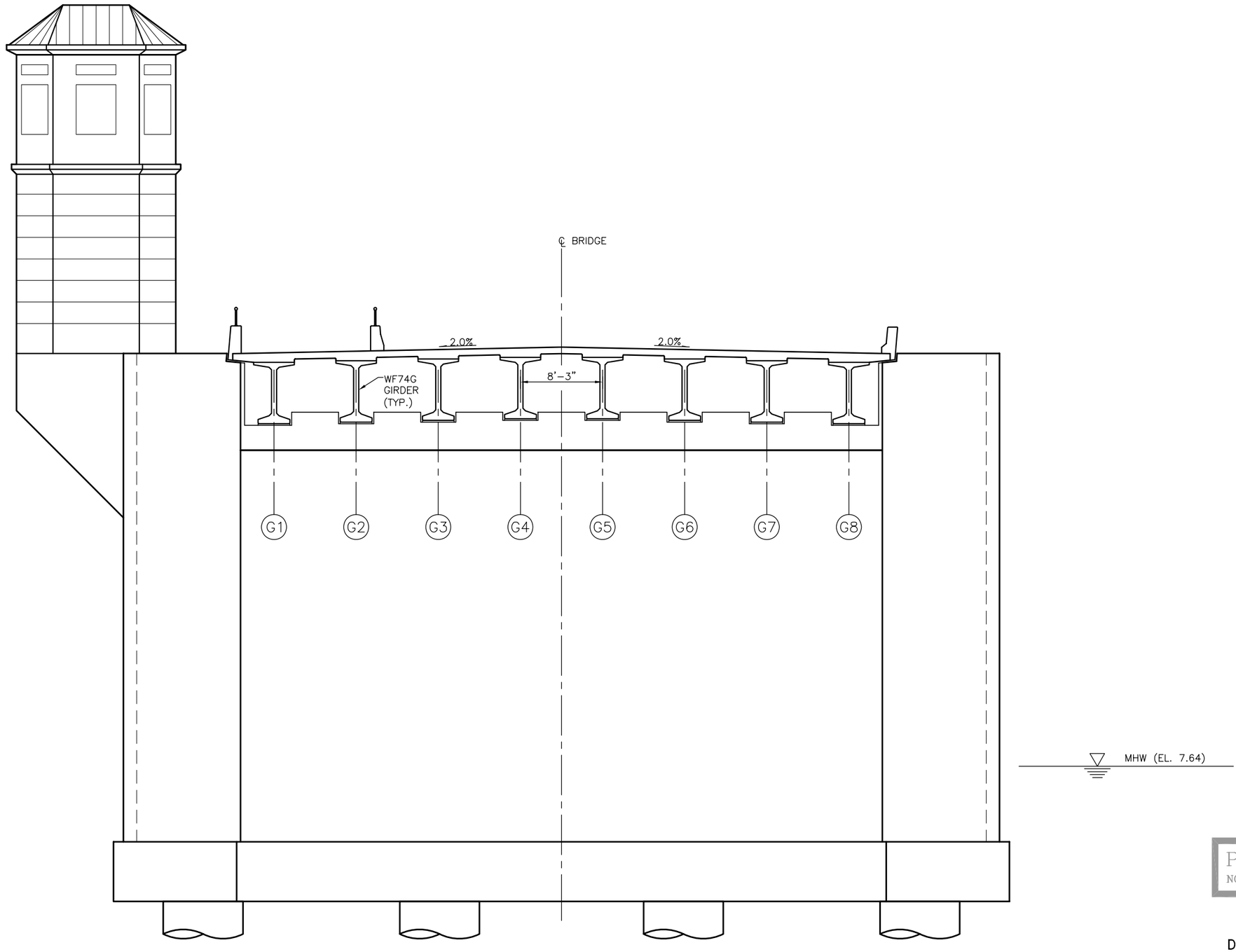

BASCULE PIER 3 – SOUTH ELEVATION

PRELIMINARY
NOT FOR CONSTRUCTION

CALL 2 WORKING
DAYS BEFORE YOU DIG
1-800-424-5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

FIELD BOOK:					
SURVEYED:					
SURVEY BASE MAP:					
DESIGN ENTERED:	06/2007				
DESIGNED F. HAN	06/2007				
CHECKED: M. MAIN	06/2007				
SUPERVISOR:		NUM.	REVISION	BY	DATE

PB 100 YEARS
PBQD, INC
999 THIRD AVE. #2200
SEATTLE, WA 98104

FED. AID No.

PROJECT No. 300197
SURVEY No. 32-24-4-22

MAINTENANCE DIVISION No.

YUHE YANG
STATE OF WASHINGTON
29940
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 6/27/07

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR
SOUTH PARK BRIDGE #3179
REPLACEMENT
BASCULE PIER
SHORE WALL

King County

SHEET 38 OF 59 SHEETS

316-63 (38)

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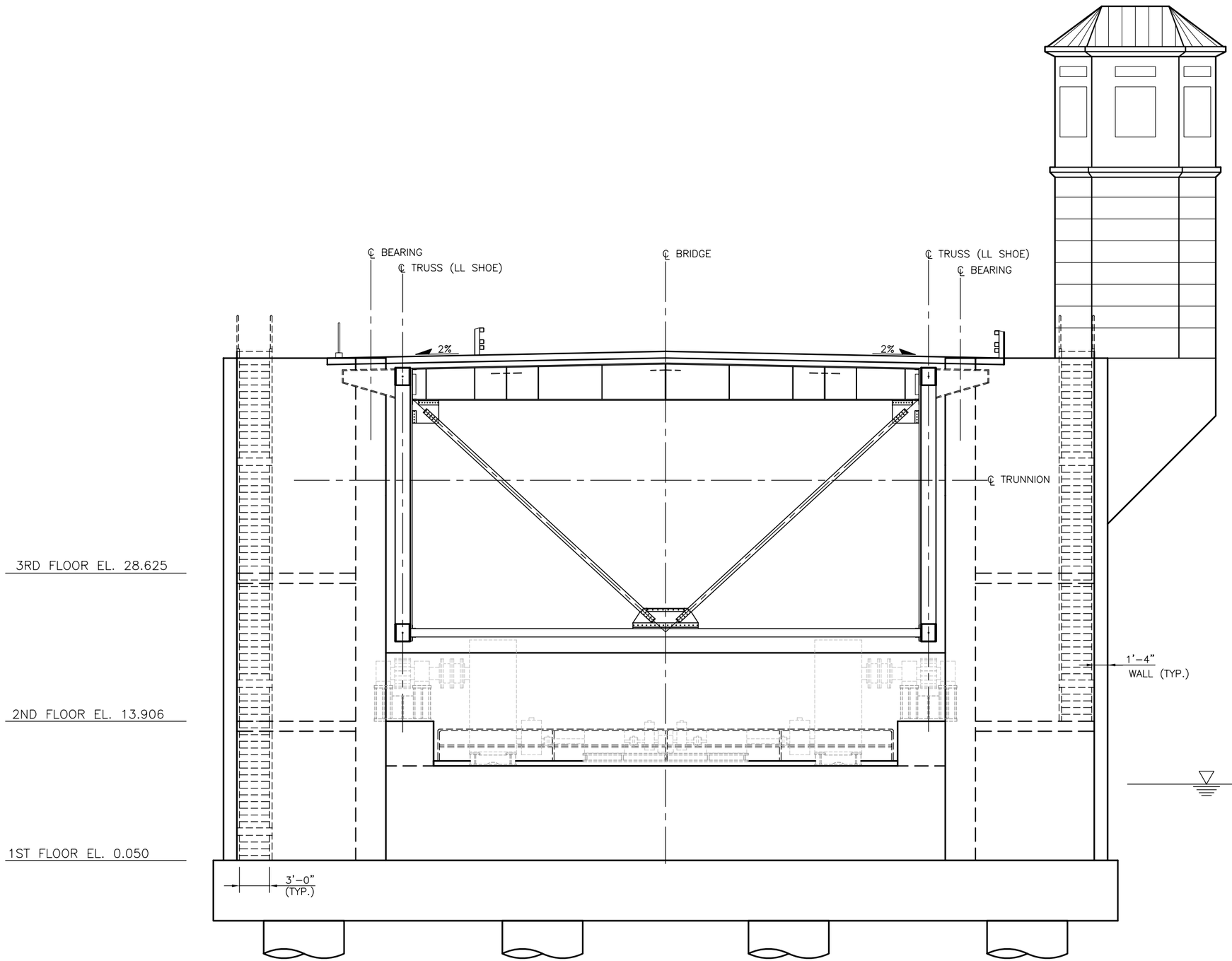


BASCULE PIER 3 – NORTH ELEVATION

PRELIMINARY
NOT FOR CONSTRUCTION

CALL 2 WORKING DAYS BEFORE YOU DIG
1-800-424-5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

J:\2531757 S Park Movable Br\CADD\STRC\SHT\SPK-SHT039.dwg Aug 14, 2007 - 2:32pm

FIELD BOOK:					
SURVEYED:					
SURVEY BASE MAP:					
DESIGN ENTERED:	06/2007				
DESIGNED F. HAN	06/2007				
CHECKED: M. MAIN	06/2007				
SUPERVISOR:		NUM.	REVISION	BY	DATE

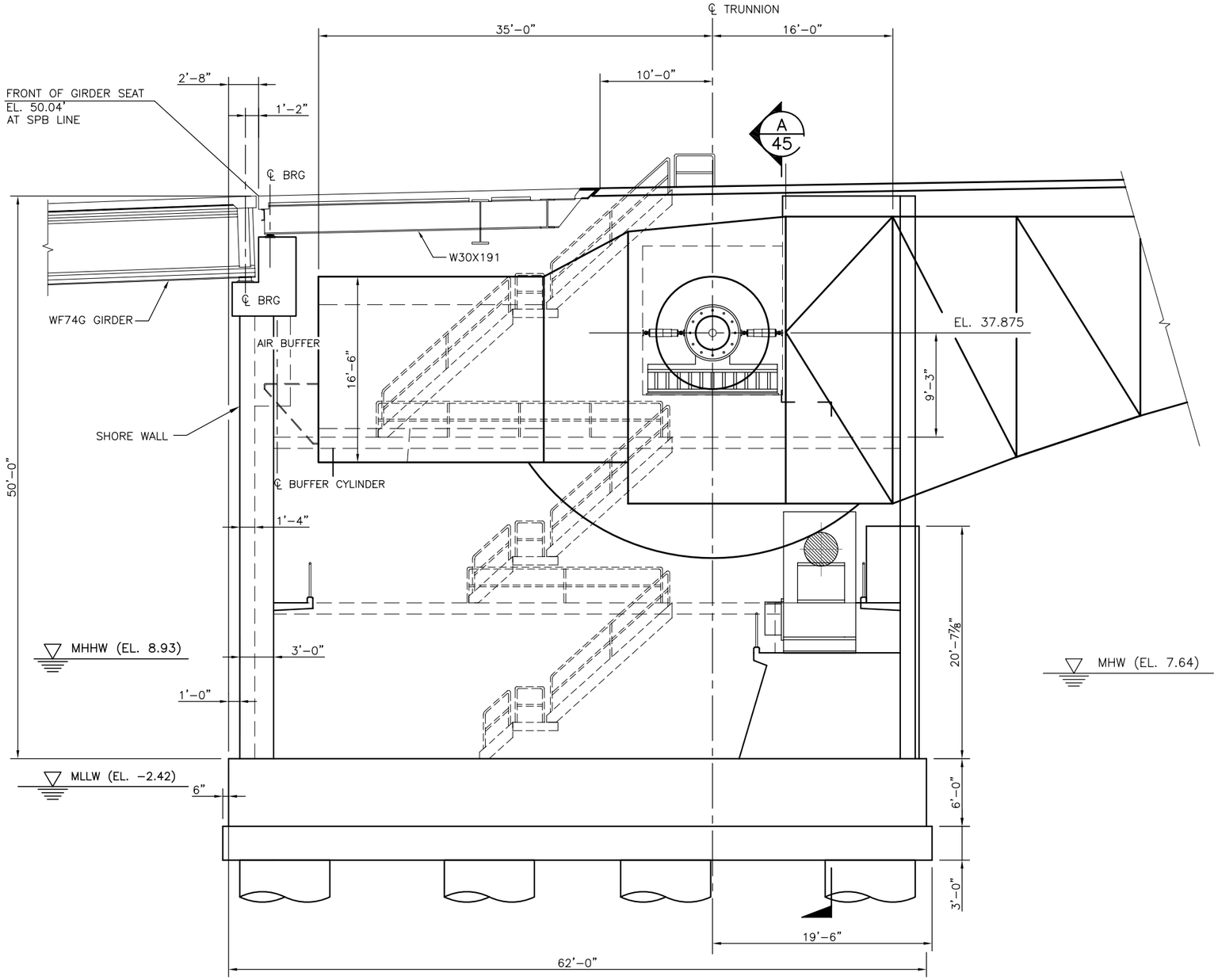
PB 100 YEARS
PBQD, INC
999 THIRD AVE. #2200
SEATTLE, WA 98104

FED. AID No.
PROJECT No. 300197
SURVEY No. 32-24-4-22
MAINTENANCE DIVISION No.

YUHE YANG
STATE OF WASHINGTON
29940
REGISTERED PROFESSIONAL ENGINEER
EXPIRES 6/27/07

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR
SOUTH PARK BRIDGE #3179 REPLACEMENT
BASCULE PIER
CHANNEL WALL

King County
SHEET 39 OF 59 SHEETS
316-63 (39)



BASCULE PIER SECTION AT ℄ BRIDGE

PRELIMINARY
NOT FOR CONSTRUCTION

55

FIELD BOOK:					
SURVEYED:					
SURVEY BASE MAP:					
DESIGN ENTERED:	06/2007				
DESIGNED F. HAN	06/2007				
CHECKED: M. MAIN	06/2007				
SUPERVISOR:		NUM.	REVISION	BY	DATE

PB 100 YEARS
PBQD, INC
999 THIRD AVE. #2200
SEATTLE, WA 98104

FED. AID No.
PROJECT No. 300197
SURVEY No. 32–24–4–22
MAINTENANCE DIVISION No.

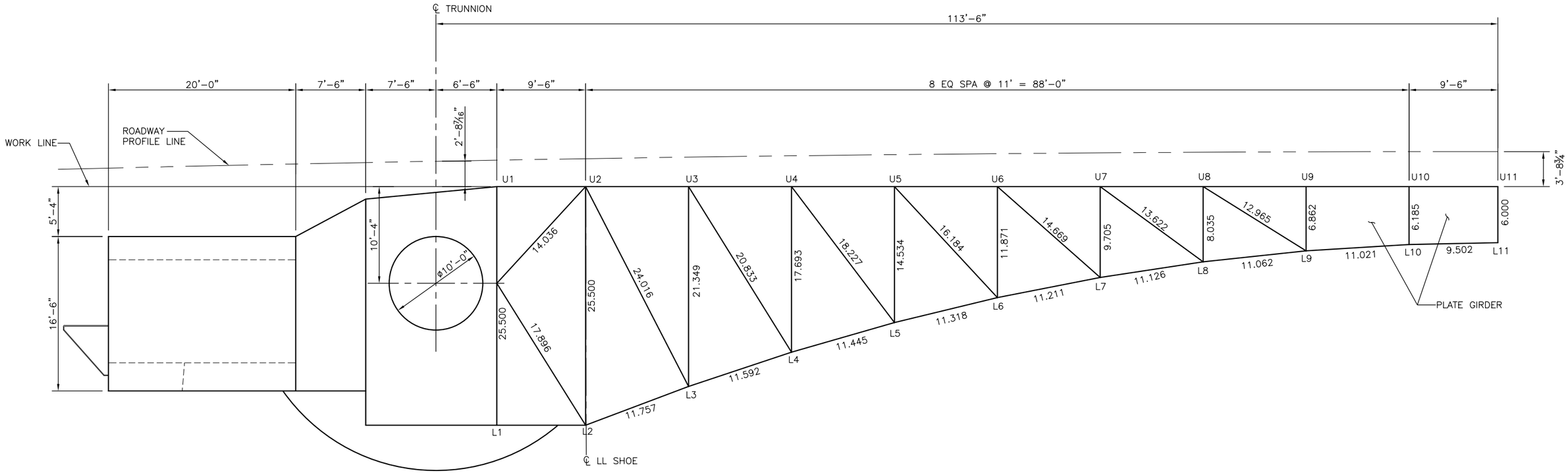
YUHE YANG
STATE OF WASHINGTON
29940
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 6/27/07

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR
SOUTH PARK BRIDGE #3179
REPLACEMENT
BASCULE PIER
LONGITUDINAL SECTION

King County

40
59
316–63 (40)

J:\2531757 S Park Movable Br\CADD\STRC\SHT\SPK–SHT040.dwg Aug 14, 2007 – 2:33pm



BASCULE LEAF TRUSS GEOMETRY

PRELIMINARY
NOT FOR CONSTRUCTION

CALL 2 WORKING DAYS BEFORE YOU DIG
1–800–424–5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

FIELD BOOK:					
SURVEYED:					
SURVEY BASE MAP:					
DESIGN ENTERED:	06/2007				
DESIGNED F. HAN	06/2007				
CHECKED: M. MAIN	06/2007				
SUPERVISOR:		NUM.	REVISION	BY	DATE

PBQD, INC 100 YEARS
999 THIRD AVE. #2200
SEATTLE, WA 98104

FED. AID No.
PROJECT No. 300197
SURVEY No. 32–24–4–22
MAINTENANCE DIVISION No.

YUHE YANG
STATE OF WASHINGTON
20940
REGISTERED PROFESSIONAL ENGINEER
EXPIRES 6/27/07

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR
SOUTH PARK BRIDGE #3179 REPLACEMENT
BASCULE LEAF TRUSS GEOMETRY

King County

SHEET 41 OF 59 SHEETS

316–63 (41)

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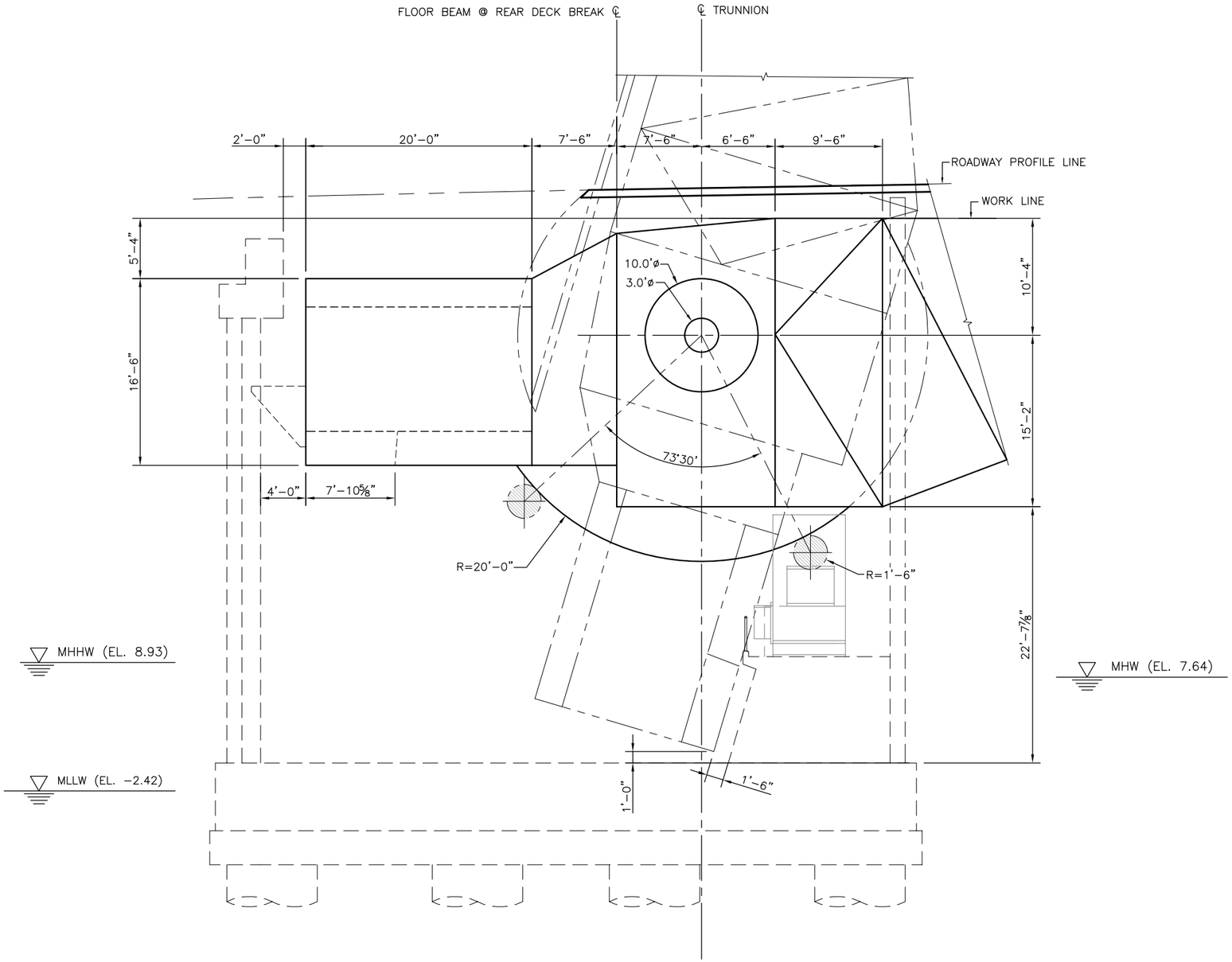


BASCULE LEAF SIDE VIEW

PRELIMINARY
NOT FOR CONSTRUCTION

CALL 2 WORKING
DAYS BEFORE YOU DIG
1–800–424–5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

J:\2531757 S Park Movable Br\CADD\STRC\SHT\SPK–SHT042.dwg Aug 14, 2007 – 2:35pm

FIELD BOOK:					
SURVEYED:					
SURVEY BASE MAP:					
DESIGN ENTERED:	06/2007				
DESIGNED F. HAN	06/2007				
CHECKED: M. MAIN	06/2007				
SUPERVISOR:		NUM.	REVISION	BY	DATE

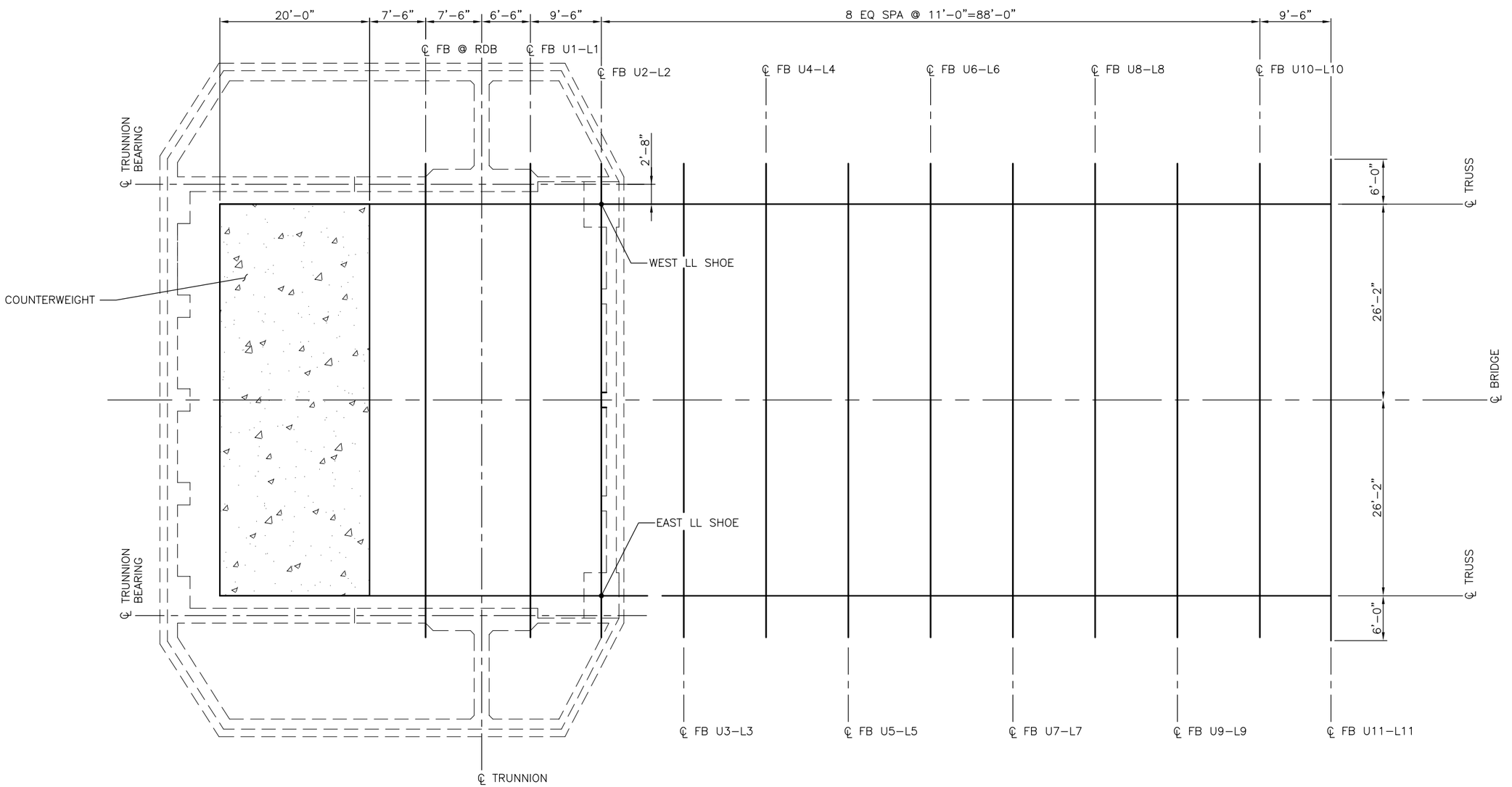
PBQD, INC
999 THIRD AVE. #2200
SEATTLE, WA 98104

FED. AID No.
PROJECT No. 300197
SURVEY No. 32–24–4–22
MAINTENANCE DIVISION No.

YUHE YANG
STATE OF WASHINGTON
29940
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 6/27/07

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR
SOUTH PARK BRIDGE #3179
REPLACEMENT
BASCULE LEAF
TRUNION & COUNTERWEIGHT

King County
SHEET 42 OF 59 SHEETS
316–63 (42)



BASCULE LEAF – FRAMING PLAN

PRELIMINARY
NOT FOR CONSTRUCTION

CALL 2 WORKING DAYS BEFORE YOU DIG
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FIELD BOOK:					
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CHECKED: M. MAIN	06/2007				
SUPERVISOR:		NUM.	REVISION	BY	DATE

PBQD, INC 100 YEARS
999 THIRD AVE. #2200
SEATTLE, WA 98104

FED. AID No.
PROJECT No. 300197
SURVEY No. 32-24-4-22
MAINTENANCE DIVISION No.

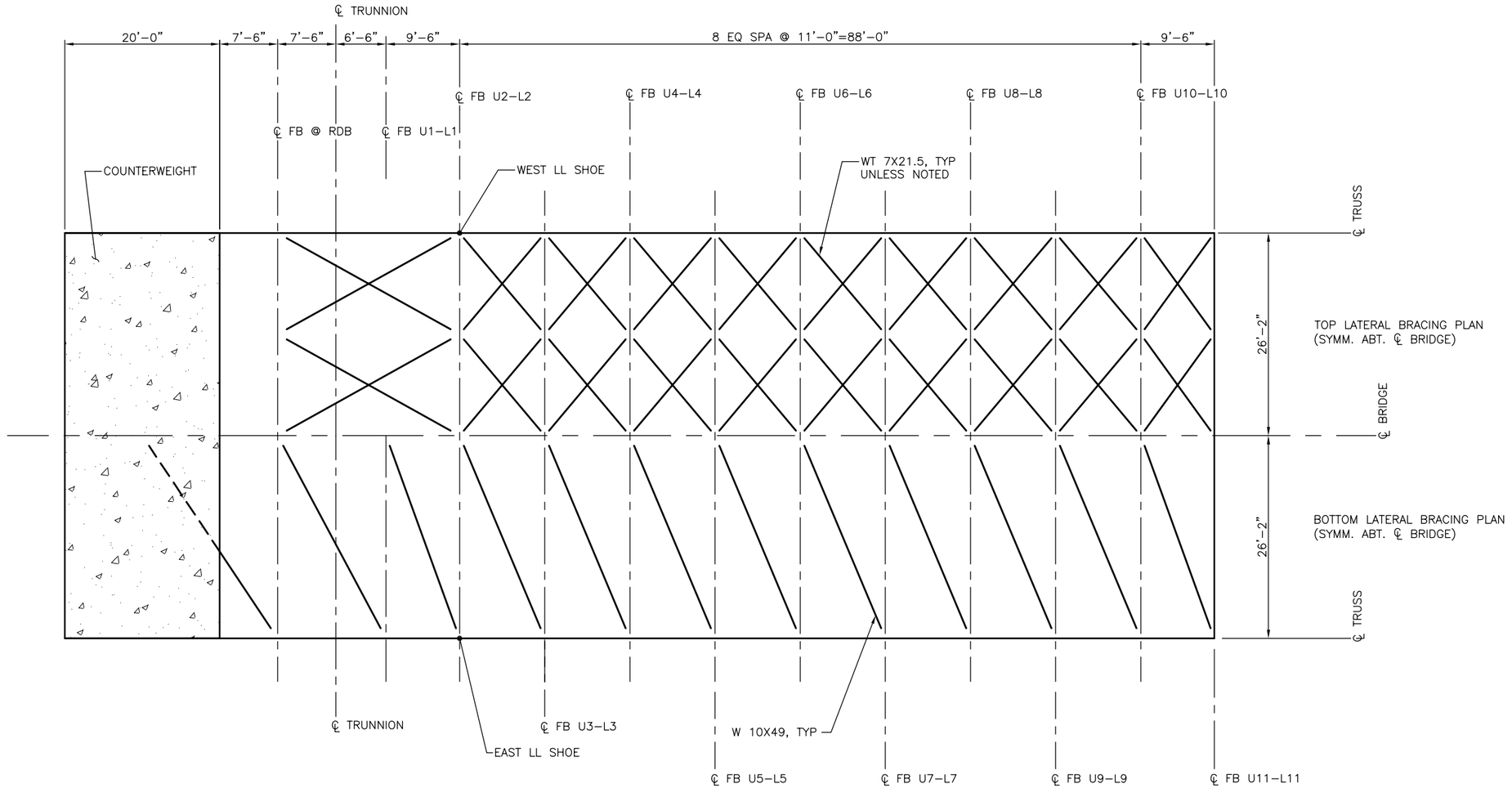
YUHE YANG
STATE OF WASHINGTON
23940
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 6/27/07

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR
SOUTH PARK BRIDGE #3179 REPLACEMENT
BASCULE LEAF FRAMING PLAN

King County

SHEET 43 OF 59 SHEETS

316-63 (43)



BASCULE LEAF – TOP AND BOTTOM LATERAL BRACING PLAN

(SOUTH LEAF SHOWN, NORTH LEAF SIMILAR)

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STATE OF WASHINGTON
29940
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KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR
SOUTH PARK BRIDGE #3179
REPLACEMENT
TOP AND BOTTOM
LATERAL BRACING PLAN

King County

SHEET 44 OF 59 SHEETS

316–63 (44)

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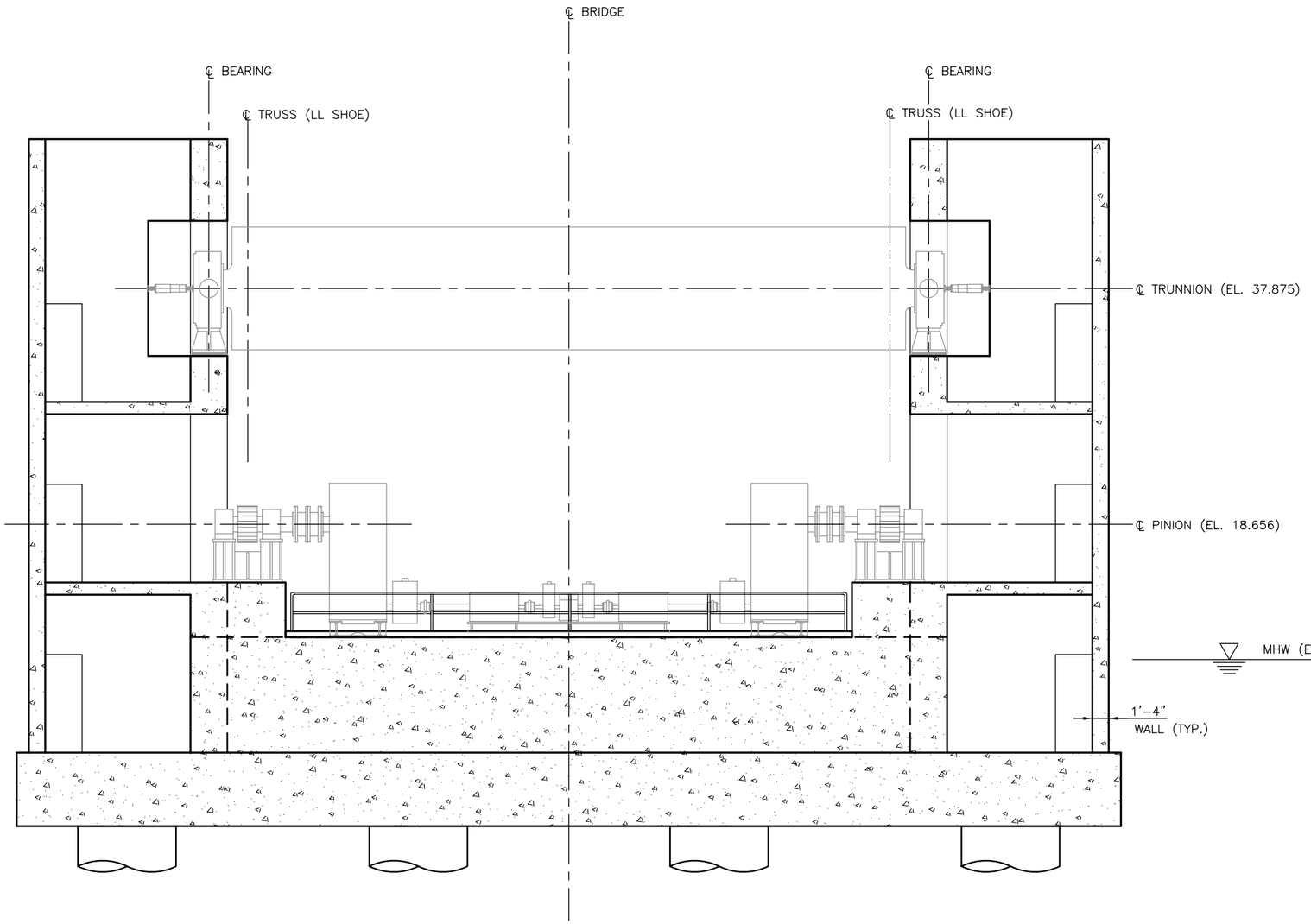

A/40 SECTION

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KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR
SOUTH PARK BRIDGE #3179
REPLACEMENT
BASCULE LEAF TRUNNION

King County

SHEET 45 OF 59 SHEETS

316-63 (45)

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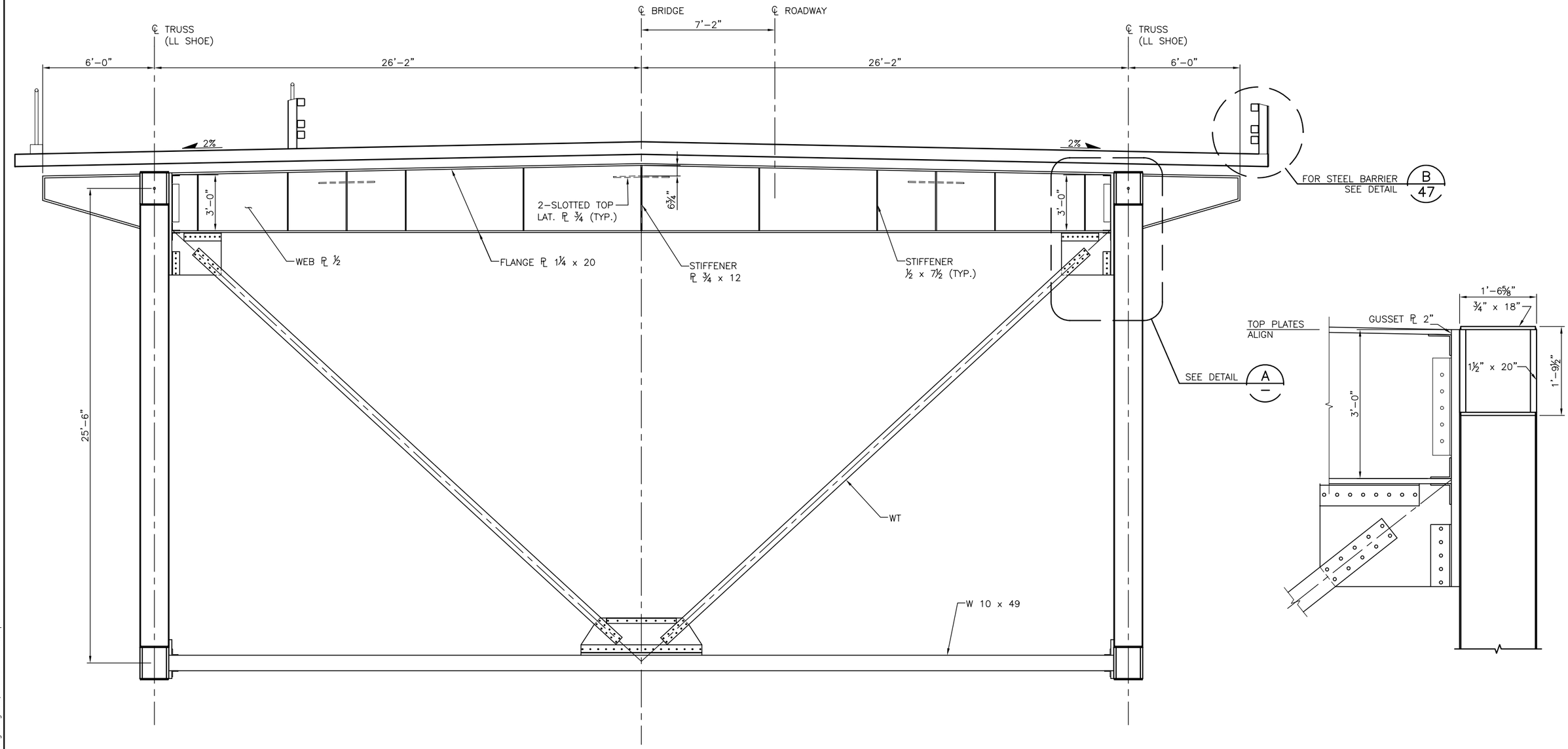

U2–L2 SECTION

A DETAIL

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HAROLD TANIGUCHI, DIRECTOR
SOUTH PARK BRIDGE #3179
REPLACEMENT
BASCULE LEAF SECTION
U2–L2

King County
SHEET 46 OF 59 SHEETS
316–63 (46)

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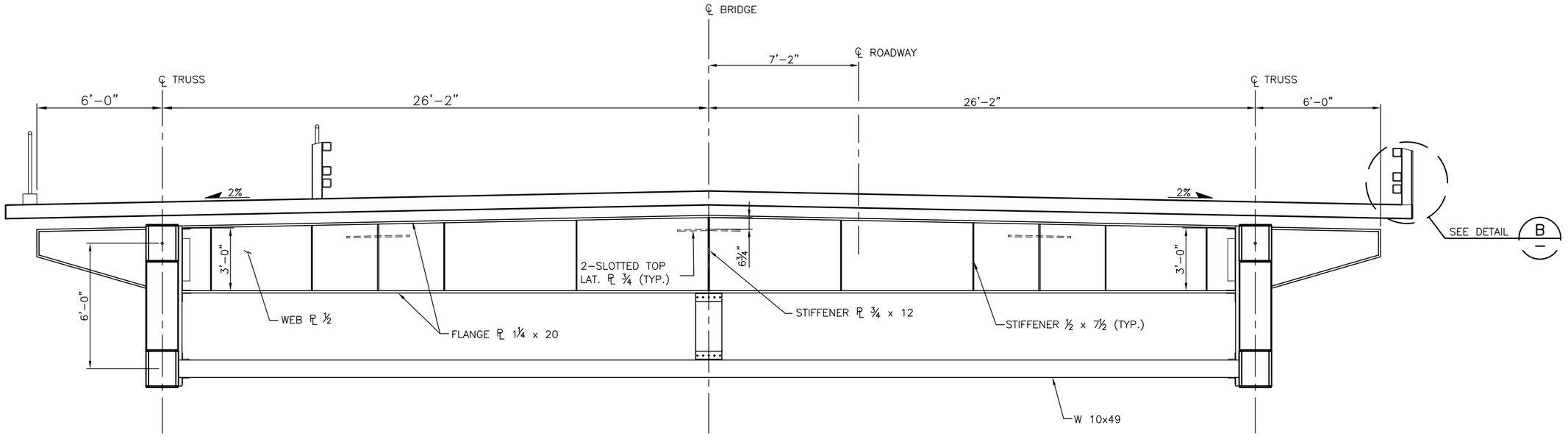
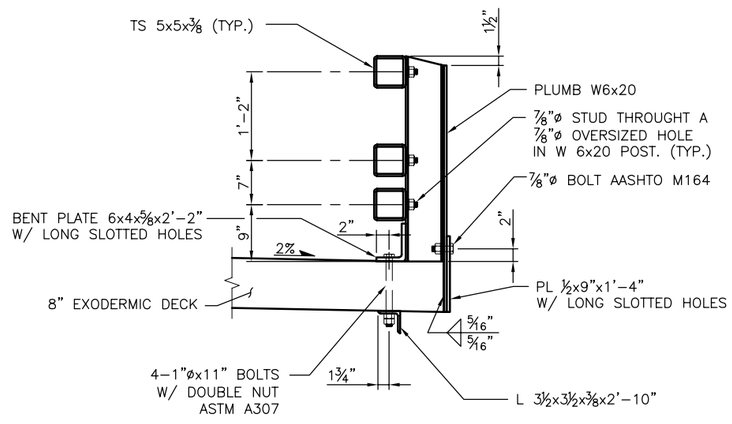


U11–L11 SECTION



B — STEEL BARRIER DETAIL

PRELIMINARY
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HAROLD TANIGUCHI, DIRECTOR
SOUTH PARK BRIDGE #3179 REPLACEMENT
BASCULE LEAF SECTION
U9 – L9

King County
SHEET 47 OF 59 SHEETS
316–63 (47)

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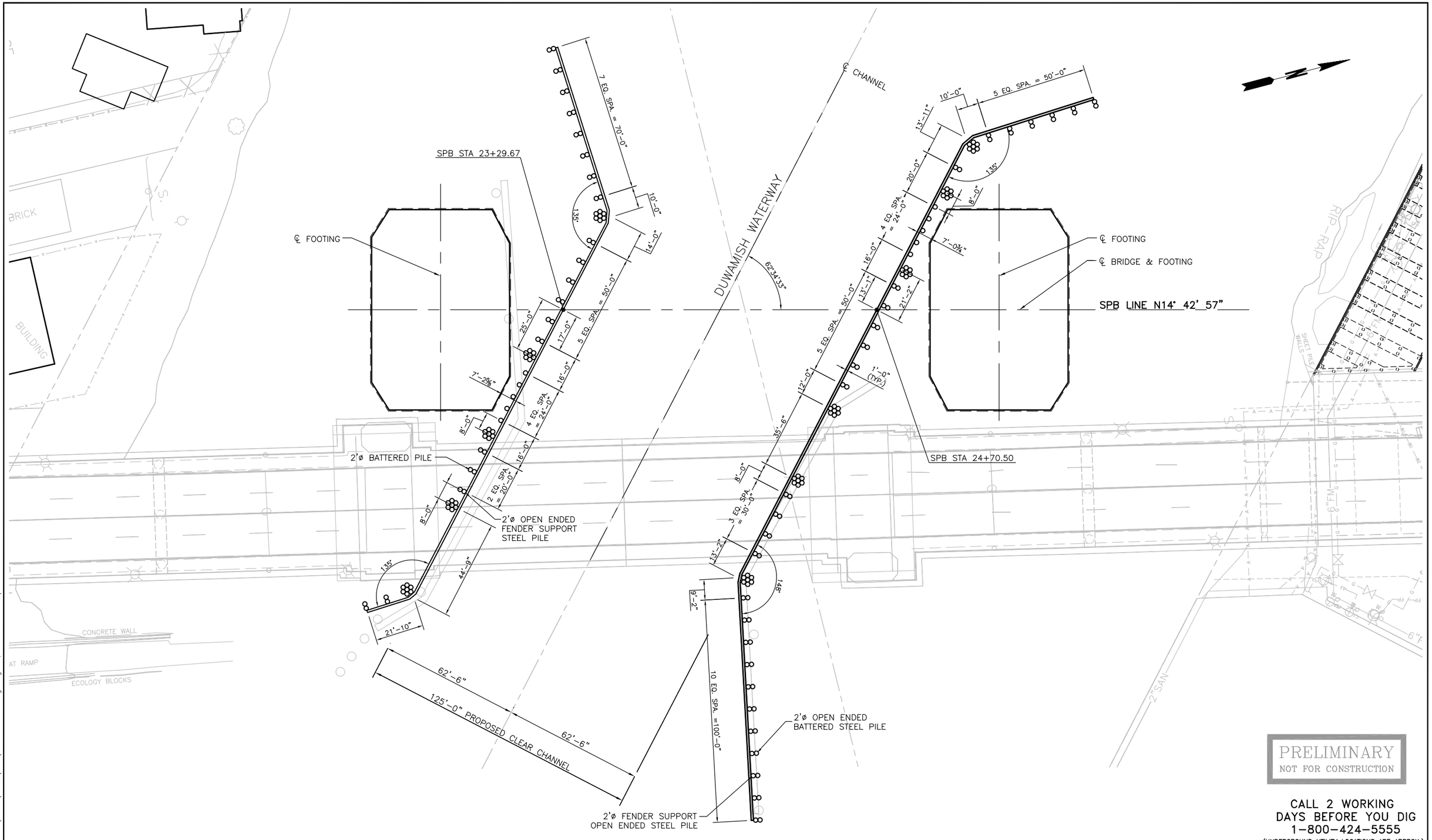

PRELIMINARY
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PB 100 YEARS
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EXPIRES 6/27/07

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR

SOUTH PARK BRIDGE #3179 REPLACEMENT

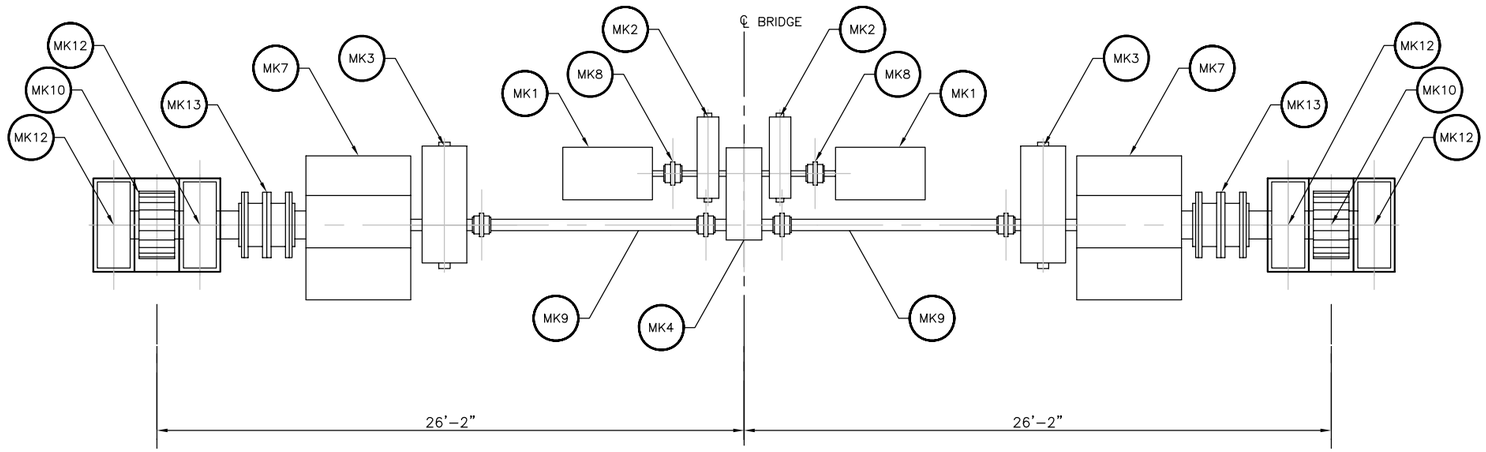
BASCULE PIER PROTECTION LAYOUT

King County

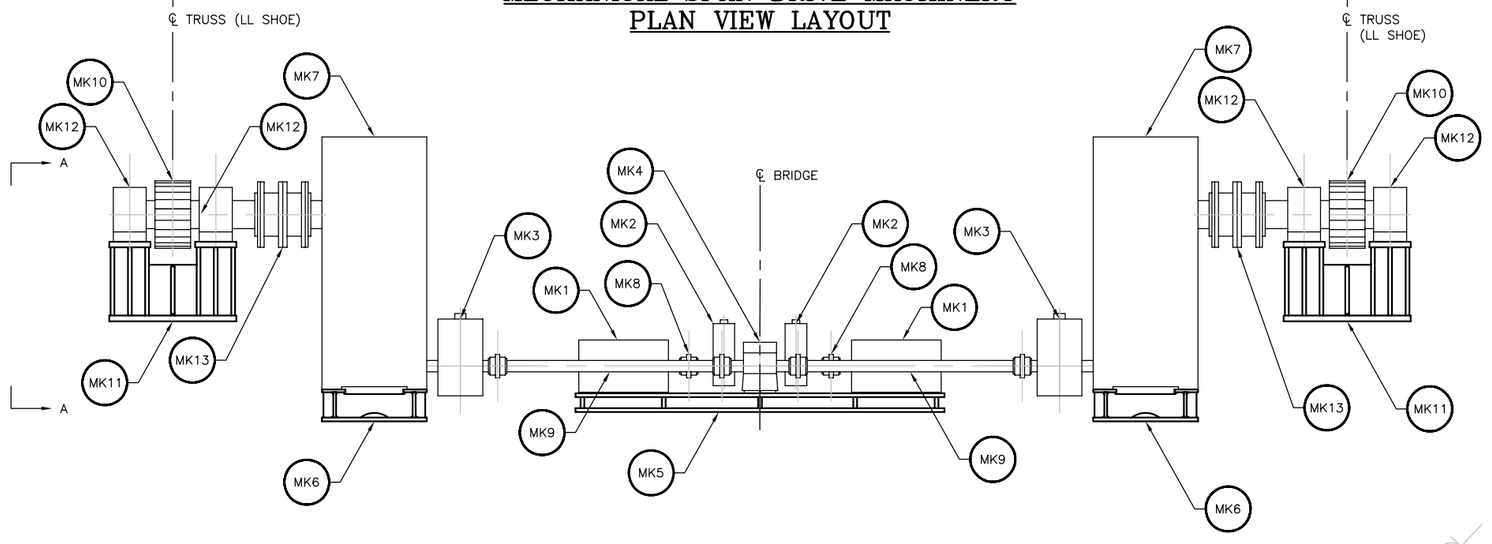
SHEET 48 OF 59 SHEETS

316-63 (48)

J:\2531757 S Park Movable Br\CADD\STRC\SHT\SPK-SHT048.dwg Aug 14, 2007 - 2:38pm



MECHANICAL SPAN DRIVE MACHINERY PLAN VIEW LAYOUT



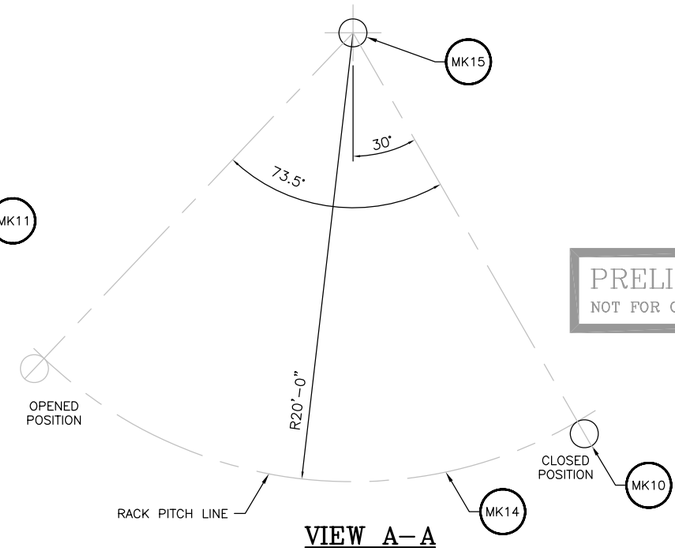
MECHANICAL SPAN DRIVE MACHINERY ELEVATION VIEW LAYOUT

MECHANICAL COMPONENT IDENTIFICATION SCHEDULE

MARK NO.	QTY. REQ'D (TOTAL PER BRIDGE)	COMPONENT	DESCRIPTION
MK1	4	MOTOR	200 HP MOTOR, 1150 RPM
MK2	4	MOTOR BRAKE	SRING SET, THRUSTOR RELEASED, 16" BRAKE WHEEL, RATED FOR 720 FT. LBS..
MK3	4	MACHINERY BRAKE	SRING SET, THRUSTOR RELEASED, 23" BRAKE WHEEL, RATED FOR 2050 FT. LBS.
MK4	2	PRIMARY REDUCER	SINGLE REDUCTION DIFFERENTIAL, RATIO: 3.31:1
MK5	2	CENTRAL MACHINERY BASEPLATE	WELDMENT
MK6	4	SECONDARY REDUCER BASEPLATE	WELDMENT
MK7	4	SECONDARY REDUCER	QUADRUPLE REDUCTION, RATIO: 126.94:1
MK8	4	MOTOR COUPLING	DOUBLE ENGAGEMENT GEAR TYPE COUPLING
MK9	4	FLOATING SHAFT ASSEMBLY	FORGED STEEL SHAFT AND 2 SINGLE ENGAGEMENT GEAR TYPE COUPLINGS
MK10	4	RACK PINION SHAFT	FORGED STEEL WITH INTEGRAL PINION
MK11	8	RACK PINION BEARING SUPPORT	WELDMENT
MK12	8	RACK PINION BEARING	SELF ALIGNING SPHERICAL ROLLING ELEMENT BEARING
MK13	4	RACK PINION SHAFT COUPLING	DOUBLE ENGAGEMENT GEAR TYPE COUPLING
MK14	4	RACK	STEEL WELDEMENT WITH FORGED STEEL RIM
MK15	4	TRUNNION	FORGED STEEL

NOTES:

1. DESIGN MEETS THE REQUIRMENTS AASHTO MOVABLE BRIDGE LRFD.
2. ONLY ONE OF THE TWO MOTORS IS REQUIRED TO OPERATE THE BRIDGE. THE MOTORS WILL BE ALTERNATED BASED ON A PREDETERMINED FREQUENCY.



VIEW A–A

PRELIMINARY
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DESIGNED P. BANDLOW	06/2007				
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SUPERVISOR:		NUM.	REVISION	BY	DATE

STAFFORD BANDLOW ENGINEERING, INC.
CONSULTING MECHANICAL ENGINEERS
573 N. MAIN STREET, SUITE 207
DOYLESTOWN, PA 18901
215-340-5830

PB 100 YEARS
PBQD, INC
999 THIRD AVE. #2200
SEATTLE, WA 98104

FED. AID No.
PROJECT No. 300197
SURVEY No. 32–24–4–22
MAINTENANCE DIVISION No.

PAUL MARTIN BANDLOW
STATE OF WASHINGTON
003162
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 05/28/2009

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR
SOUTH PARK BRIDGE #3179 REPLACEMENT
MECHANICAL DRIVE SYSTEM LAYOUT

King County
SHEET 49 OF 59 SHEETS
316–63 (49)

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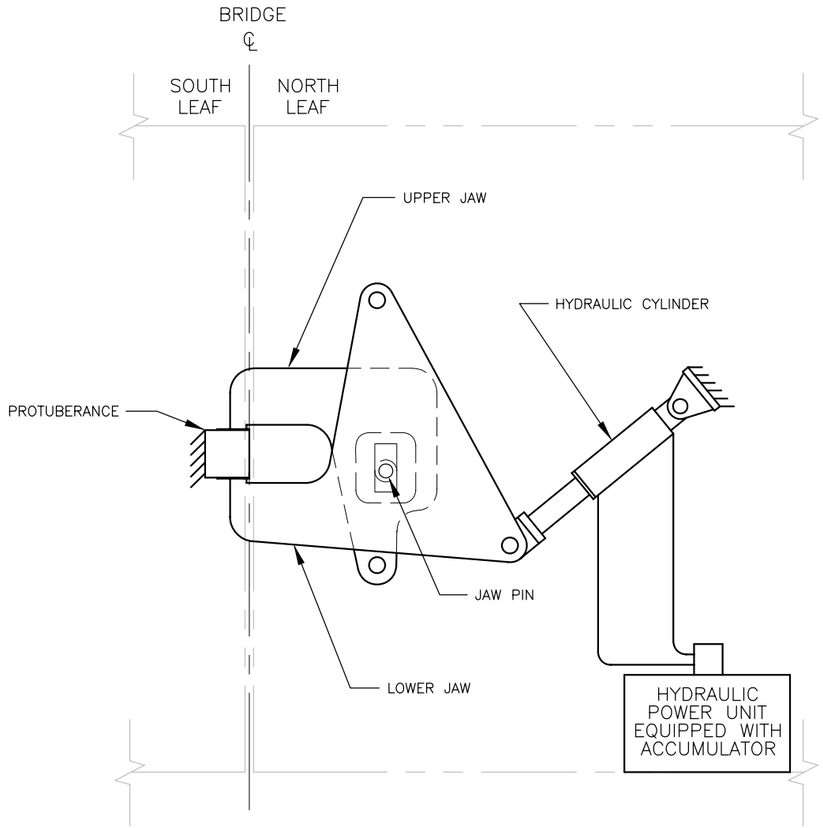
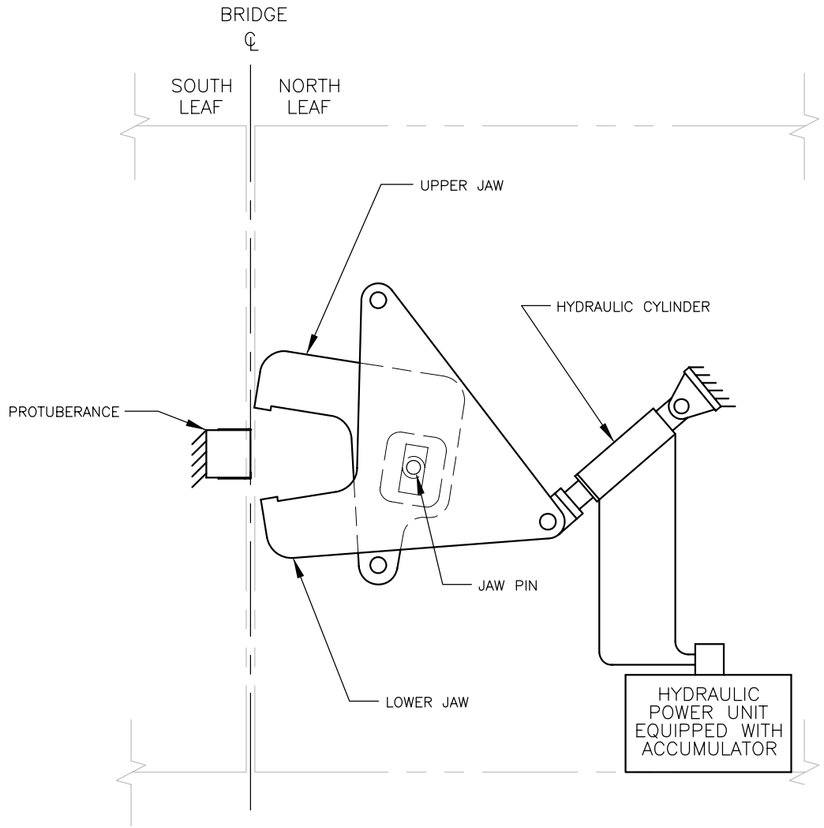


DRIVEN



RETRACTED

SPAN LOCK LAYOUT OPTION NO. 4

PRELIMINARY
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573 N. MAIN STREET, SUITE 207
DOYLESTOWN, PA 18901
215-340-5830

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PBQD, INC
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SEATTLE, WA 98104

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STATE OF WASHINGTON
003162
REGISTERED
PROFESSIONAL ENGINEER
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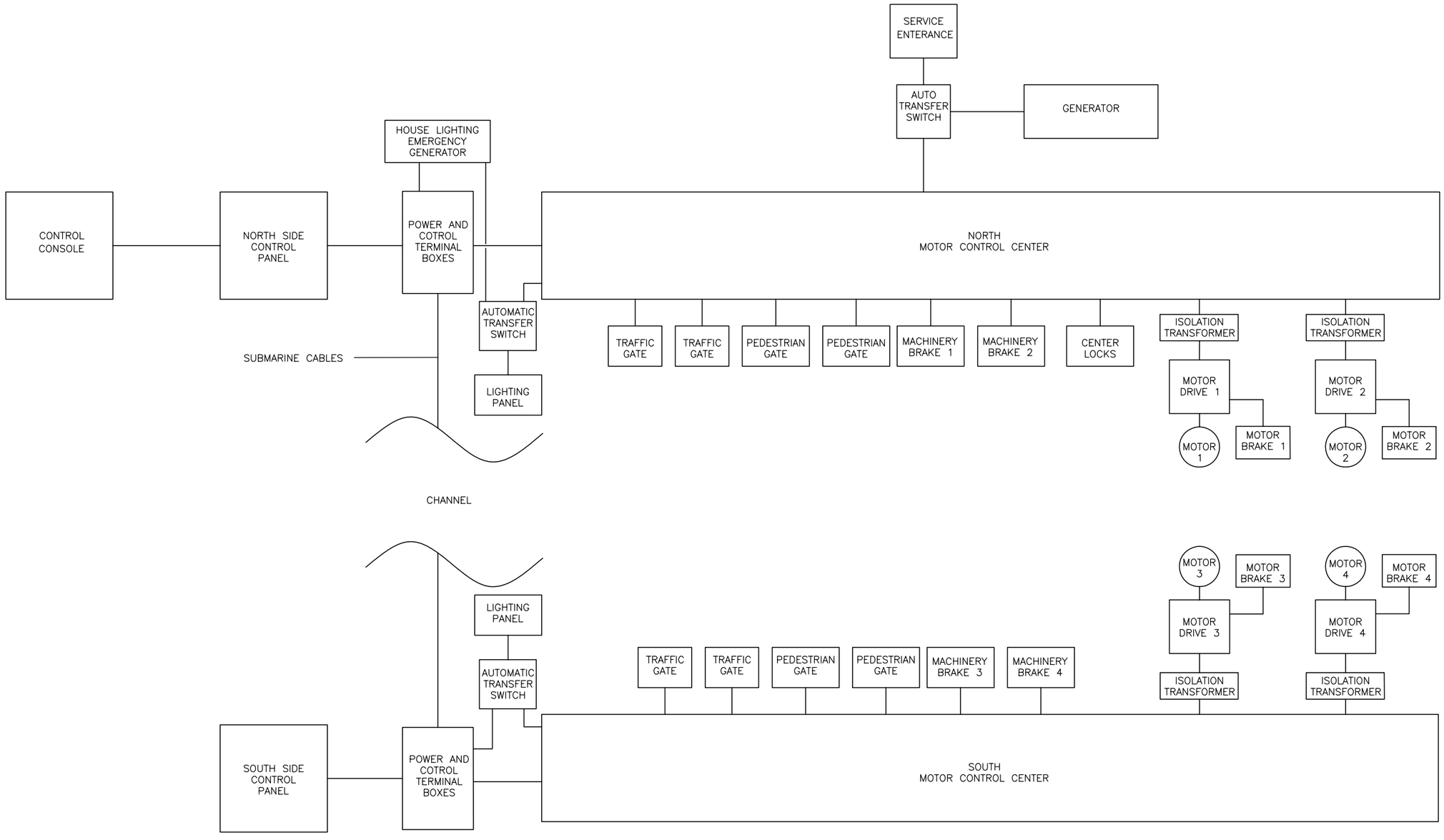
KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR
SOUTH PARK BRIDGE #3179 REPLACEMENT
CENTER LOCK

King County
SHEET 50 OF 59 SHEETS
316-63 (50)



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32605
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EXPIRES 02/02/2009

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HAROLD TANIGUCHI, DIRECTOR
SOUTH PARK BRIDGE #3179 REPLACEMENT
ELECTRICAL SYSTEM

King County
SHEET 51 OF 59 SHEETS
316-63 (51)

CONSTRUCTION STAGING AREA

CONSTRUCTION STAGING AREA

DUWAMISH WATERWAY

200T OPEN ENDED STEEL TRESTLE PILES

TRESTLE FOR NEW BRIDGE

℄ CHANNEL

20' TYP.

32'-0"

24'-0"

92'-0"

40'-0"

64'-0"

40'-0"

SPB LINE

30' MIN CLEAR

5' CLEAR TYP.

7+00

7+19

6+00

5+00

18+00

19+00

20+00

21+00

22+00

23+00

24+00

25+00

26+00

27+00

28+00

29+00

30+00

2+00

3+00

4+00

16TH AVE. S

ESTIMATED AREA OF GROUND IMPROVEMENT

118' EXISTING CLEAR CHANNEL

125' PROPOSED CLEAR CHANNEL

EXISTING SOUTH PARK BRIDGE

ESTIMATED AREA OF GROUND IMPROVEMENT

PLAN

SUGGESTED BRIDGE CONSTRUCTION SEQUENCE

1. GROUND IMPROVEMENT, INSTALL THE EARTHQUAKE DRAINS AND RELOCATE THE UTILITY
2. PARTIALLY REMOVE EXISTING FENDER AND COMPACTION GROUT UNDER EXISTING BASCULE PIER
3. CONSTRUCT WORK TRESTLE AND PIER COFFERDAM, DEMOLISH PORTION OF WHARF

LEGEND

- BOEING PIER DEMOLITION
- PROPOSED STAGING AREA
- STAGING AREA FENCE
- SOIL IMPROVEMENT AREA

PRELIMINARY
NOT FOR CONSTRUCTION

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PROJECT No. 300197

SURVEY No. 32-24-4-22

MAINTENANCE DIVISION No.

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STATE OF WASHINGTON
29940
REGISTERED PROFESSIONAL ENGINEER
EXPIRES 6/27/07

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR

SOUTH PARK BRIDGE #3179 REPLACEMENT

CONSTRUCTION STAGING PLAN - 1

King County

SHEET 52 OF 59 SHEETS

316-63 (52)

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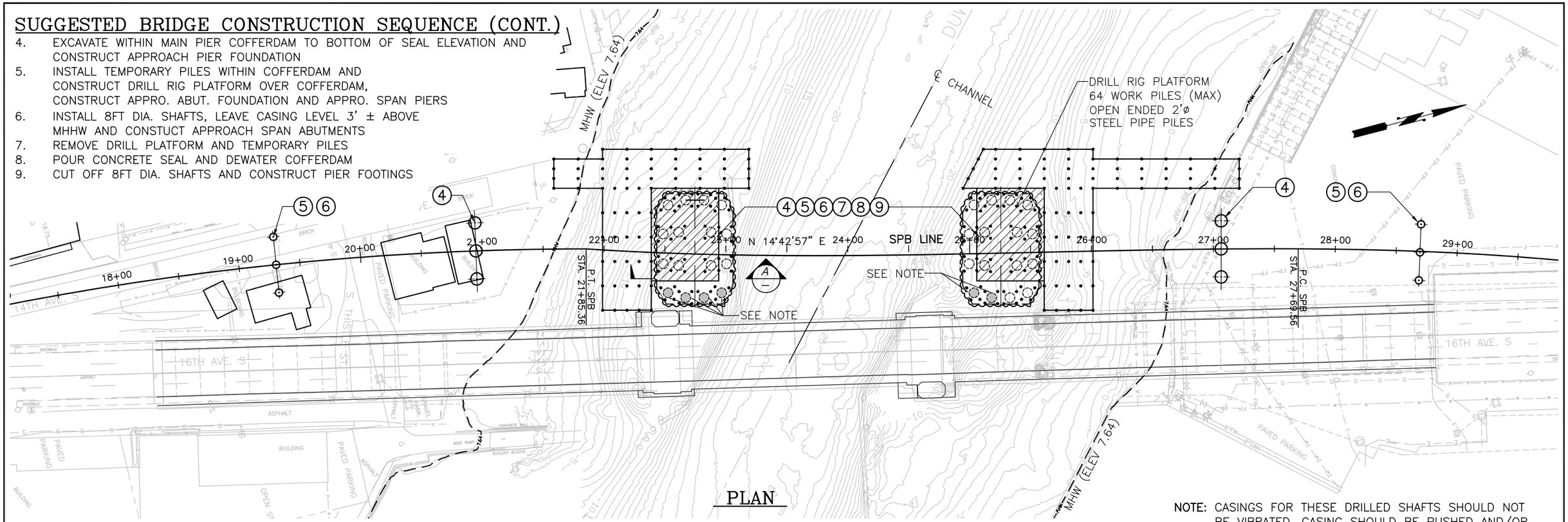
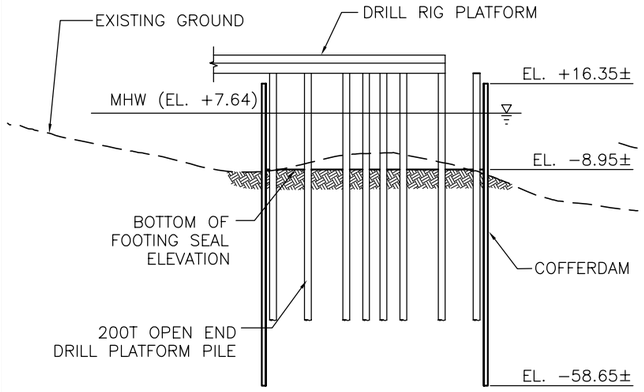
SUGGESTED BRIDGE CONSTRUCTION SEQUENCE (CONT.)

4. EXCAVATE WITHIN MAIN PIER COFFERDAM TO BOTTOM OF SEAL ELEVATION AND CONSTRUCT APPROACH PIER FOUNDATION
5. INSTALL TEMPORARY PILES WITHIN COFFERDAM AND CONSTRUCT DRILL RIG PLATFORM OVER COFFERDAM, CONSTRUCT APPRO. ABUT. FOUNDATION AND APPRO. SPAN PIERS
6. INSTALL 8FT DIA. SHAFTS, LEAVE CASING LEVEL 3' ± ABOVE MHHW AND CONSTUCT APPROACH SPAN ABUTMENTS
7. REMOVE DRILL PLATFORM AND TEMPORARY PILES
8. POUR CONCRETE SEAL AND DEWATER COFFERDAM
9. CUT OFF 8FT DIA. SHAFTS AND CONSTRUCT PIER FOOTINGS



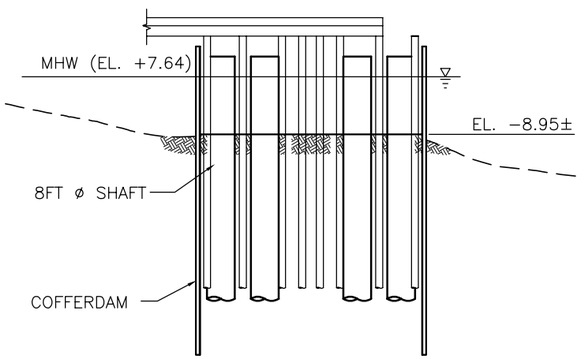
PLAN

NOTE: CASINGS FOR THESE DRILLED SHAFTS SHOULD NOT BE VIBRATED. CASING SHOULD BE PUSHED AND/OR TWISTED.



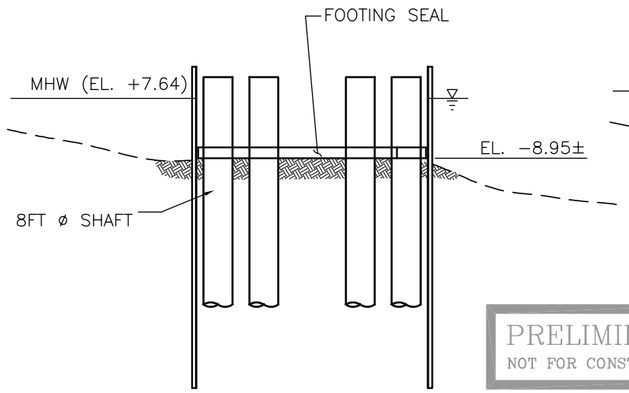
SECTION A

4. FOUNDATION EXCAVATION
5. INSTALL TEMP. PILES & PLATFORM



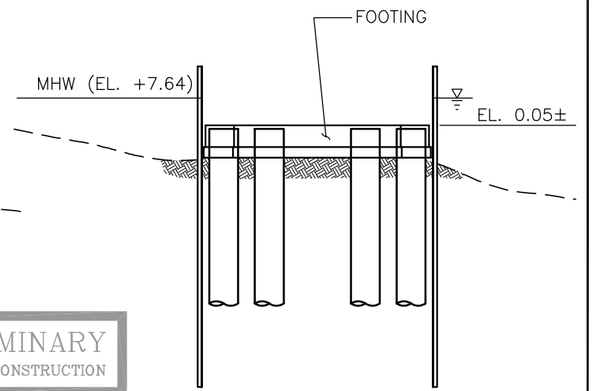
SECTION A

6. INSTALL 8FT DIA. SHAFTS AND CASINGS



SECTION A

7. REMOVE PLATFORM & TEMP. PILES
8. POUR CONCRETE SEAL & DEWATER



SECTION A

9. CUT OFF 8FT DIA. SHAFTS AND CONSTRUCT PIER FOOTING

PRELIMINARY
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PBQD, INC 100 YEARS
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SEATTLE, WA 98104

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PROJECT No. 300197
SURVEY No. 32−24−4−22
MAINTENANCE DIVISION No.

YUHE YANG
STATE OF WASHINGTON
29940
REGISTERED PROFESSIONAL ENGINEER
EXPIRES 6/27/07

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR

SOUTH PARK BRIDGE #3179 REPLACEMENT

CONSTRUCTION STAGING PLANS − 2

King County

SHEET 53 OF 59 SHEETS

316−63 (53)

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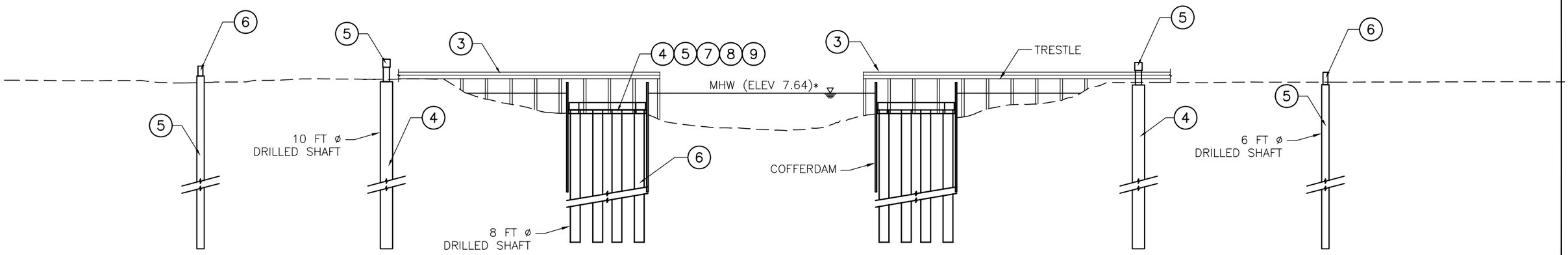
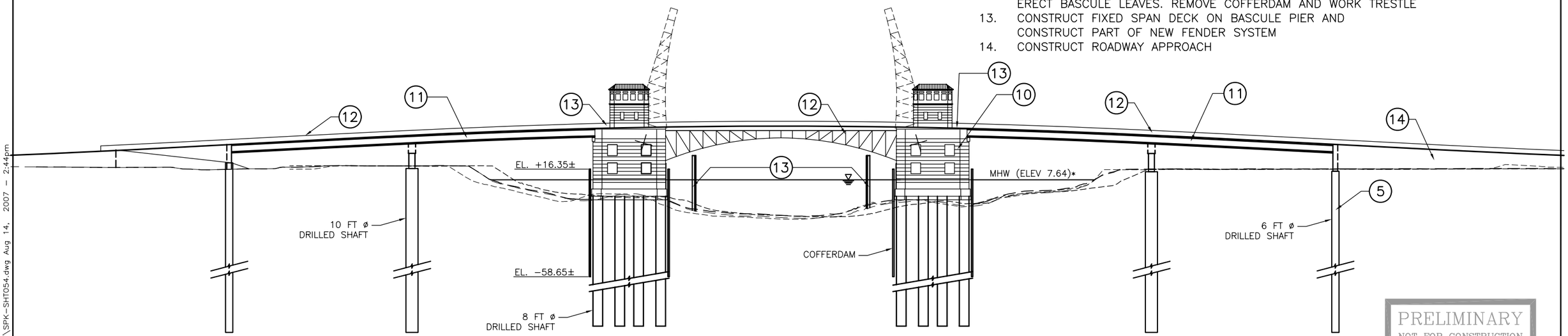


SUBSTRUCTURE ELEVATION @ ALIGNMENT

SUGGESTED BRIDGE CONSTRUCTION SEQUENCE (CONT.)

10. CONSTRUCT BASCULE PIERS
11. ERECT APPROACH SPAN GIRDERS
12. CONSTRUCT APPROACH DECK, ROADWAY, SIDEWALKS, BARRIERS AND ERECT BASCULE LEAVES. REMOVE COFFERDAM AND WORK TRESTLE
13. CONSTRUCT FIXED SPAN DECK ON BASCULE PIER AND CONSTRUCT PART OF NEW FENDER SYSTEM
14. CONSTRUCT ROADWAY APPROACH



ELEVATION @ ALIGNMENT

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J:\2531757 S Park Movable Br\CADD\STRC\SHT\SPK−SHT054.dwg Aug 14, 2007 − 2:44pm

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SEATTLE, WA 98104

FED. AID No.
PROJECT No. 300197
SURVEY No. 32−24−4−22
MAINTENANCE DIVISION No.

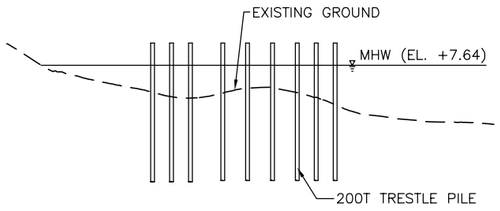
YUHE YANG
STATE OF WASHINGTON
23940
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 6/27/07

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR
SOUTH PARK BRIDGE #3179
REPLACEMENT
CONSTRUCTION STAGING PLANS − 3

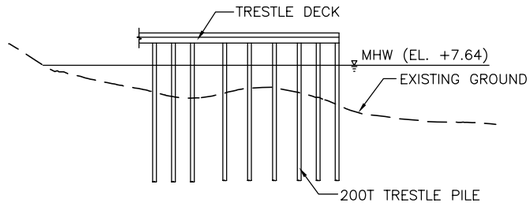
King County

SHEET 54 OF 59 SHEETS

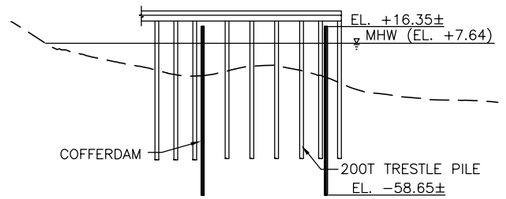
316−63 (54)



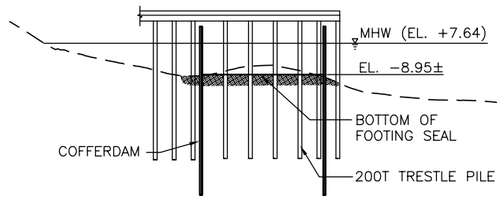
3.1 DRIVE STEEL PILES FOR CONSTRUCTION TRESTLE



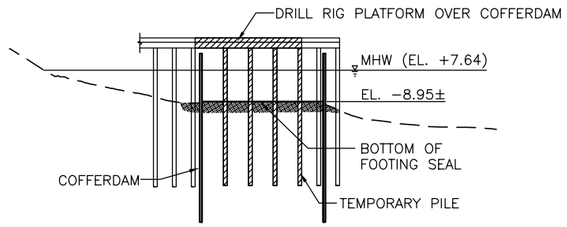
3.2 CONSTRUCT TRESTLE DECK



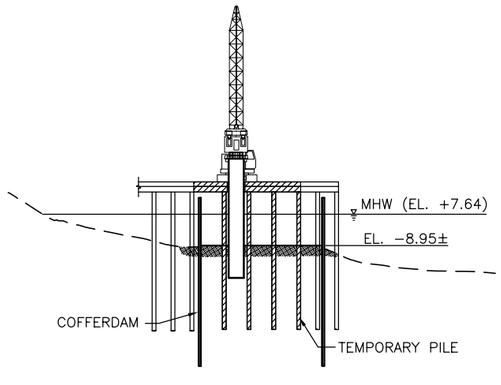
3.3 CONSTRUCT PIER COFFERDAM



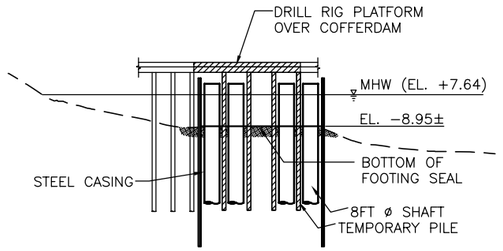
4 EXCAVATE FOR FOUNDATION



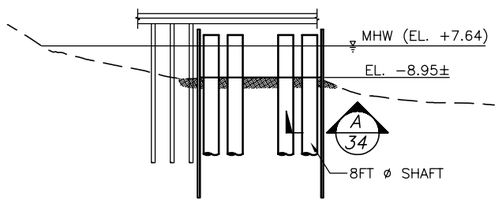
5.1 INSTALL TEMPORARY PILES WITHIN COFFERDAM
5.2 CONSTRUCT DRILL RIG PLATFORM OVER COFFERDAM



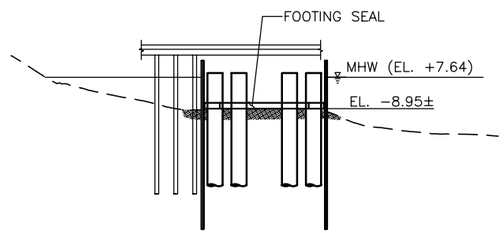
6.1 INSTALL STEEL CASING INSIDE COFFERDAM



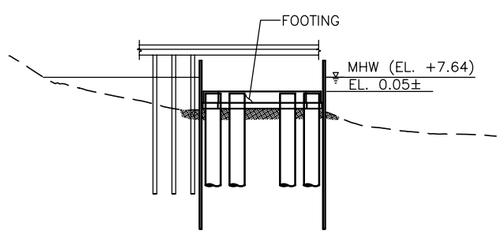
6.2 VIBRATE/PUSH/TWIST STEEL CASING INSIDE COFFERDAM
6.3 EXCAVATE INSIDE STEEL SHAFT CASING
6.4 INSTALL THE REBAR CAGE AND PLACE CONCRETE INSIDE THE SHAFTS



7.1 REMOVE DRILL PLATFORM
7.2 REMOVE TEMPORARY PILES INSIDE COFFERDAM



8.1 POUR CONCRETE SEAL
8.2 DEWATER INSIDE COFFERDAM



9.1 CUT OFF 8FT DIA. SHAFT CASINGS
9.2 CONSTRUCT PIER FOOTING

NOTE:
DETAILED CONSTRUCTION SEQUENCE FROM STEP 3 TO STEP 9 AT SECTION A, SHEET 53

PRELIMINARY
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J:\25317S7 S Park Movable Br\CADD\STRC\SHT\SPK−SHT055.dwg Aug 14, 2007 − 2:45pm

FIELD BOOK:					
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MAINTENANCE DIVISION No.

YUHE YANG
STATE OF WASHINGTON
20940
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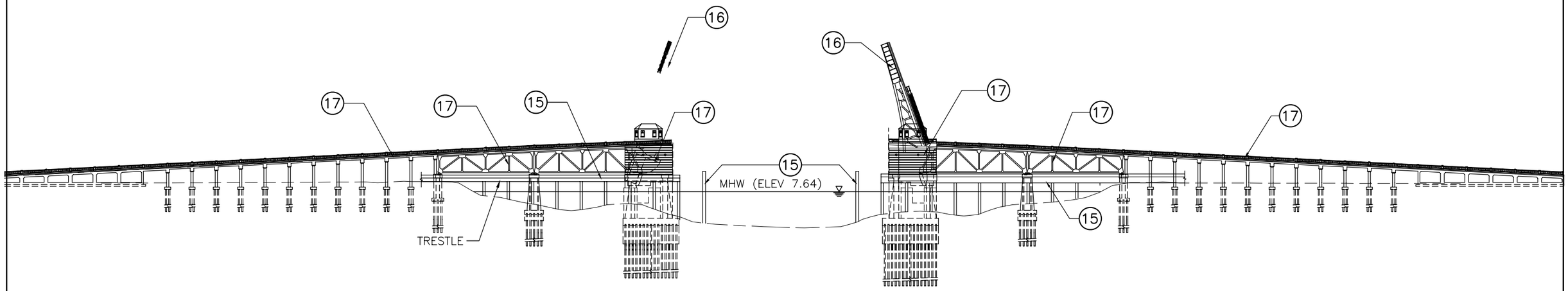
EXPIRES 6/27/07

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR
SOUTH PARK BRIDGE #3179 REPLACEMENT
BASCULE PIER FOUNDATION CONSTRUCTION

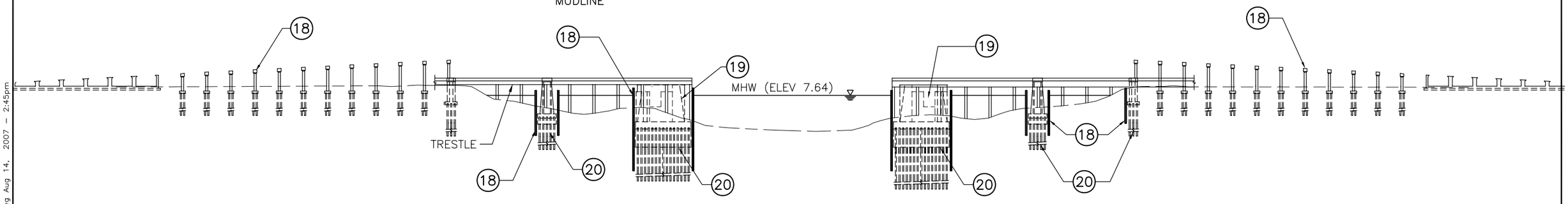
King County
SHEET 55 OF 59 SHEETS
316−63 (55)



DEMOLISH EXISTING BRIDGE SUPERSTRUCTURE (LOOKING WEST)

SUGGESTED BRIDGE CONSTRUCTION SEQUENCE (CONT.)

15. REMOVE EXISTING FENDERS AND CONSTRUCT WORK TRESTLE FOR REMOVING EXISTING STRUCTURE
16. REMOVE EXISTING BASCULE LEAVES
17. REMOVE EXISTING APPROACH SPANS AND UPPER PORTION OF BASCULE PIER
18. CONSTRUCT COFFERDAMS AROUND EXISTING BASCULE PIER, BOTH INTERMEDIATE APPROACH PIERS AND NORTH ON–SHORE PIER (SOUTH SIDE AND EAST/WEST ENDS ONLY). REMOVE EXISTING ON–SHORE APPROACH PIERS AND PILES.
19. REMOVE REMAINING PORTION OF BASCULE PIER
20. REMOVE EXISTING BASCULE AND APPROACH PIER FOUNDATIONS TO 3' ± BELOW THE MUDLINE



DEMOLISH EXISTING BRIDGE SUBSTRUCTURE (LOOKING WEST)

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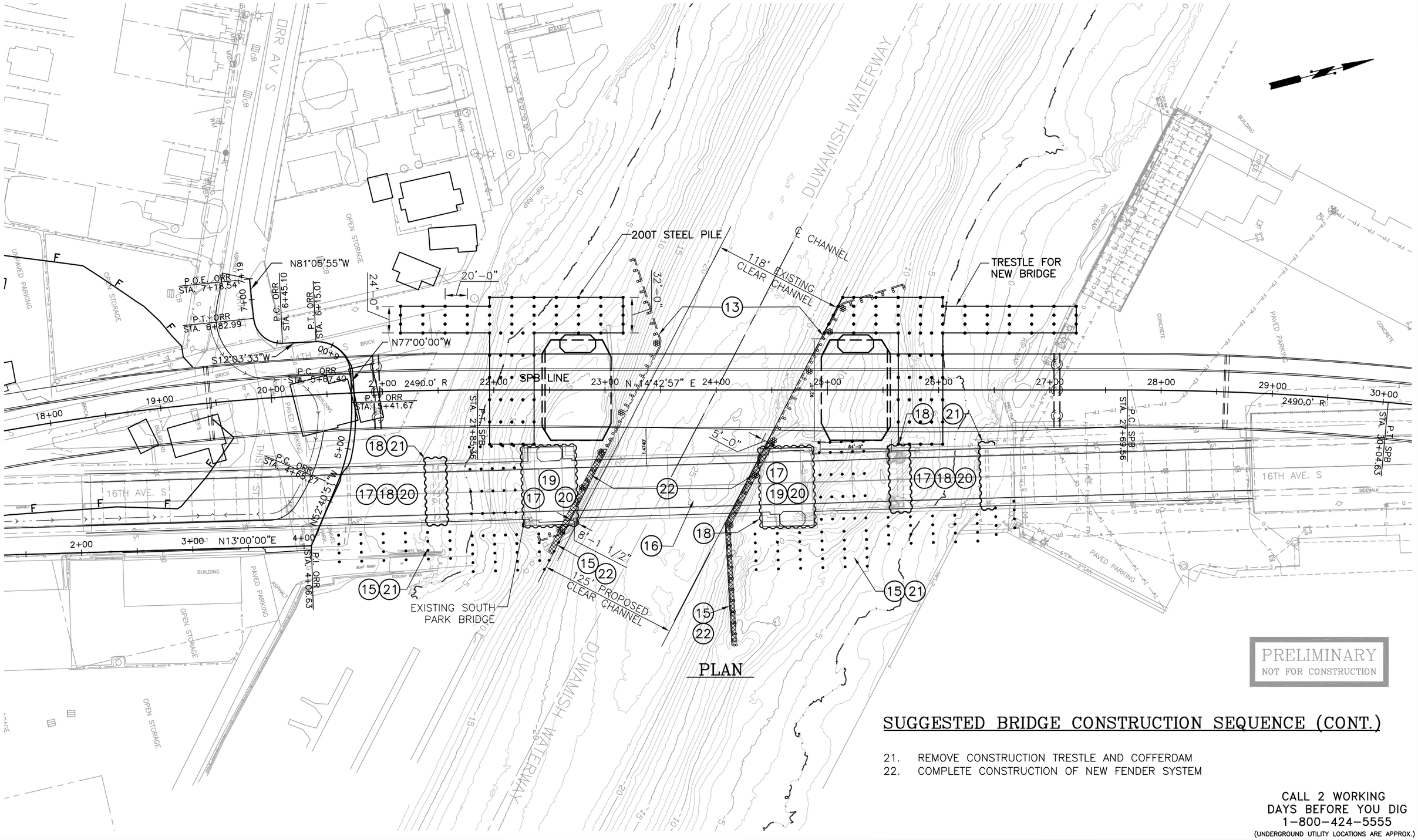
HAROLD TANIGUCHI, DIRECTOR
SOUTH PARK BRIDGE #3179 REPLACEMENT
CONSTRUCTION STAGING PLANS – 4

King County
SHEET 56 OF 59 SHEETS
316–63 (56)



PLAN

PRELIMINARY
NOT FOR CONSTRUCTION

SUGGESTED BRIDGE CONSTRUCTION SEQUENCE (CONT.)

21. REMOVE CONSTRUCTION TRESTLE AND COFFERDAM
22. COMPLETE CONSTRUCTION OF NEW FENDER SYSTEM

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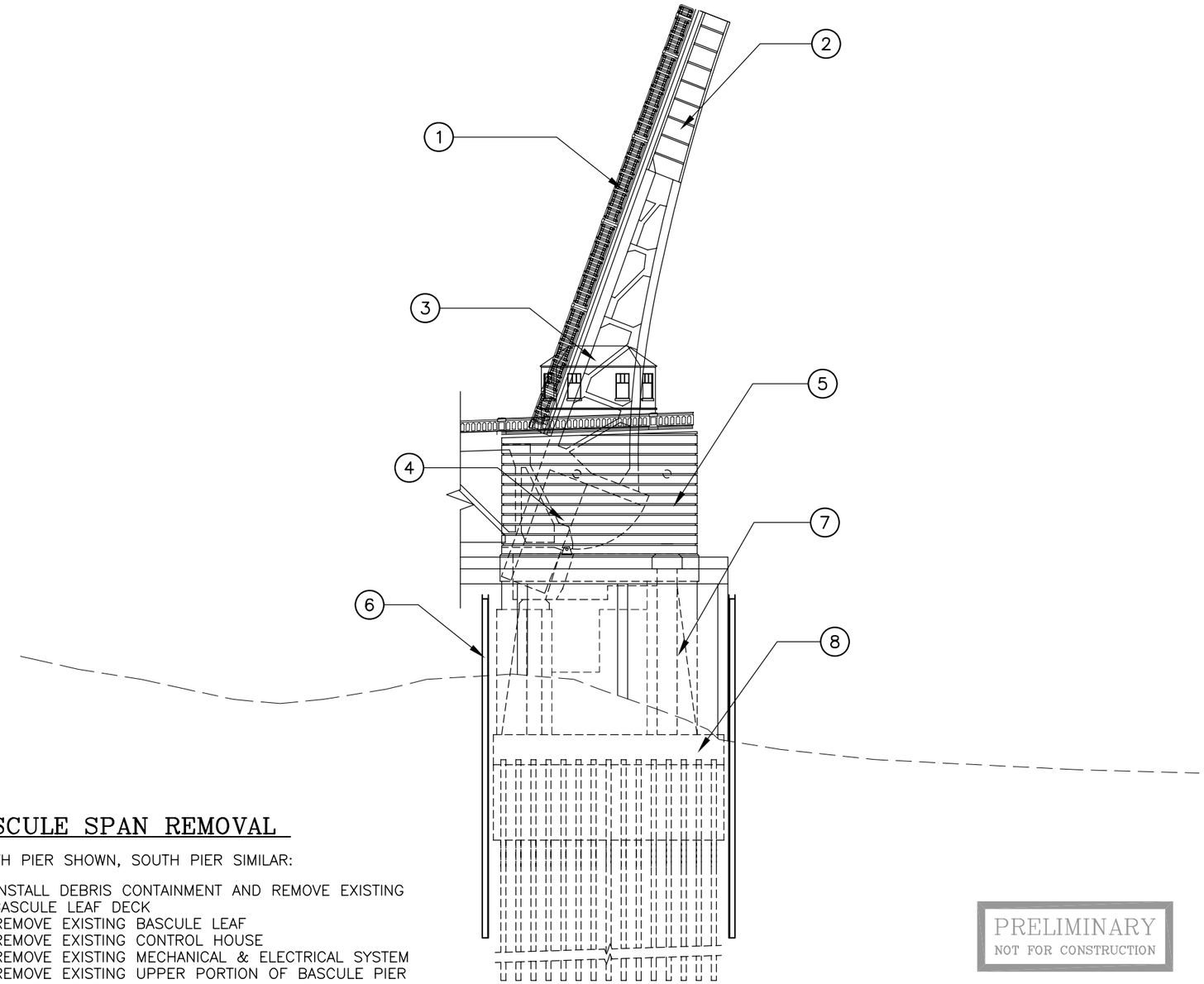
KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR
SOUTH PARK BRIDGE #3179 REPLACEMENT
REMOVAL SEQUENCE OF EXISTING STRUCTURES

King County
SHEET 57 OF 59 SHEETS
316-63 (57)

J:\2531757 S Park Movable Br\CADD\STRC\SHT\SPK-SHT057.dwg Aug 14, 2007 - 2:46pm



BASCULE SPAN REMOVAL

NORTH PIER SHOWN, SOUTH PIER SIMILAR:

1. INSTALL DEBRIS CONTAINMENT AND REMOVE EXISTING BASCULE LEAF DECK
2. REMOVE EXISTING BASCULE LEAF
3. REMOVE EXISTING CONTROL HOUSE
4. REMOVE EXISTING MECHANICAL & ELECTRICAL SYSTEM
5. REMOVE EXISTING UPPER PORTION OF BASCULE PIER
6. CONSTRUCT EXISTING BASCULE PIER COFFERDAM
7. REMOVE EXISTING REMAINING PORTION OF BASCULE PIER
8. REMOVE EXISTING BASCULE PIER FOUNDATIONS TO 3'± BELOW THE MUDLINE

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CALL 2 WORKING DAYS BEFORE YOU DIG
1-800-424-5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

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FED. AID No.
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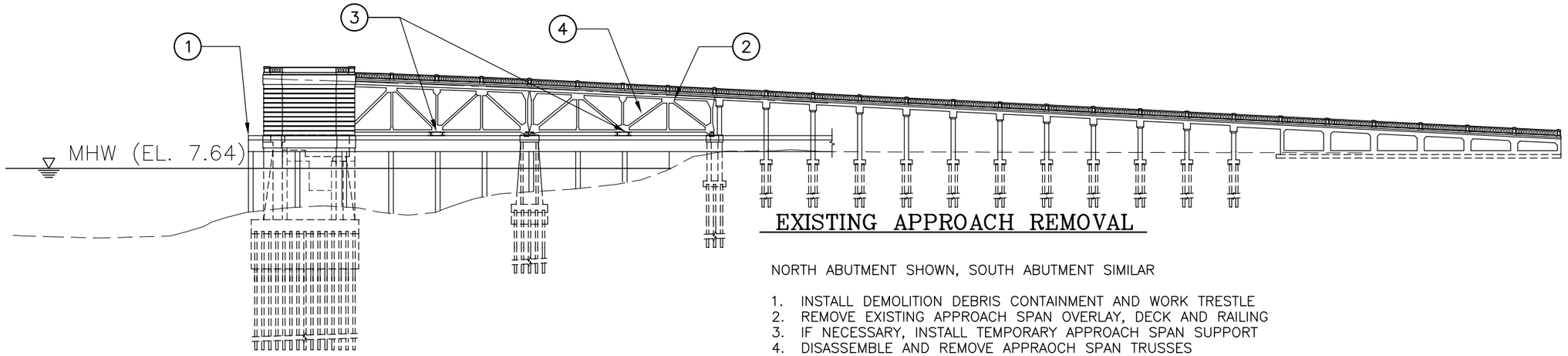
KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR
SOUTH PARK BRIDGE #3179 REPLACEMENT
BASCULE SPAN REMOVAL

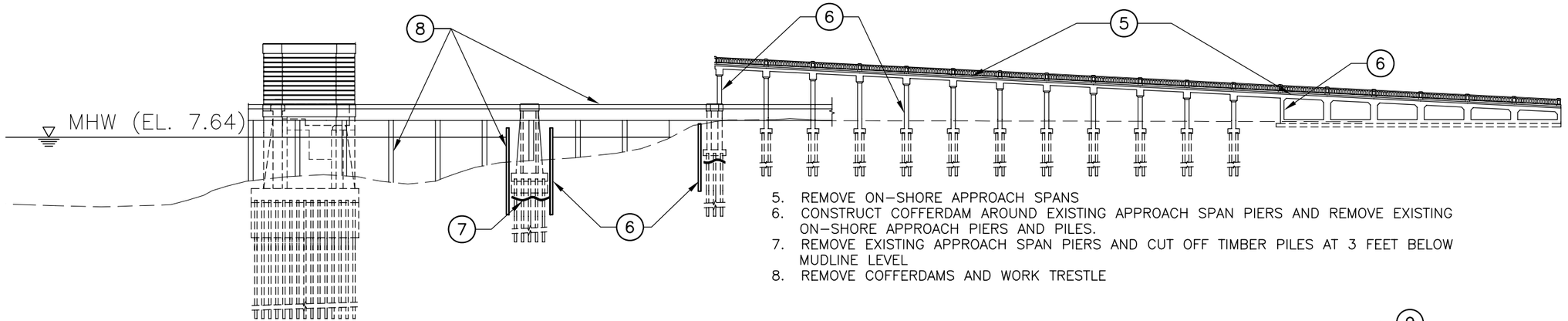
King County
SHEET 58 OF 59 SHEETS
316-63 (58)



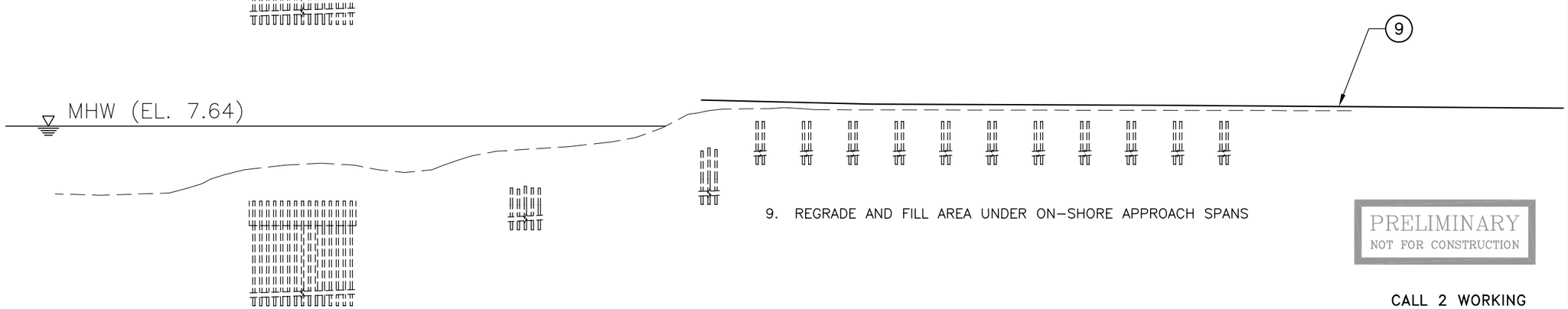
EXISTING APPROACH REMOVAL

NORTH ABUTMENT SHOWN, SOUTH ABUTMENT SIMILAR

1. INSTALL DEMOLITION DEBRIS CONTAINMENT AND WORK TRESTLE
2. REMOVE EXISTING APPROACH SPAN OVERLAY, DECK AND RAILING
3. IF NECESSARY, INSTALL TEMPORARY APPROACH SPAN SUPPORT
4. DISASSEMBLE AND REMOVE APPRAOCH SPAN TRUSSES



5. REMOVE ON–SHORE APPROACH SPANS
6. CONSTRUCT COFFERDAM AROUND EXISTING APPROACH SPAN PIERS AND REMOVE EXISTING ON–SHORE APPROACH PIERS AND PILES.
7. REMOVE EXISTING APPROACH SPAN PIERS AND CUT OFF TIMBER PILES AT 3 FEET BELOW MUDLINE LEVEL
8. REMOVE COFFERDAMS AND WORK TRESTLE



9. REGRADE AND FILL AREA UNDER ON–SHORE APPROACH SPANS

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EXPIRES 6/27/07

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR
SOUTH PARK BRIDGE #3179 REPLACEMENT
NORTH (SOUTH) APPROACH REMOVAL

King County
SHEET 59 OF 59 SHEETS
316–63 (59)

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