

Jeff Lehman

From: Jeff Lehman
Sent: Thursday, October 7, 2021 5:29 PM
To: Hans Hunger; Ken Cook; Mark Higginson; Bryan Roberts; Sarkany, Rick; Ken Lee; Cooney, Steve (Contractor); Russell, Brian (Contractor); Farrell, Robin (Contractor) (c-Robin.Farrell@soundtransit.org); Yilin Wang (yilin.wang@concordengr.com); Syed Rahman; Justin Matthews; Brent Pilon; Shimizu, Greg; Ken Davies; Cary Bertram; Greg Edwards
Cc: Jeff Lehman
Subject: E-21-0022/ST Parking Garage - 4th/Stewart Signal Cabinet Concept Discussion - Notes/Exhibits for Reference
Attachments: 4th & Stewart Cabinet Relocation Concept Design_09292021.pdf; 4th & Stewart Cabinet Relocation Conduit Fill Calculation_09292021.pdf; 5th St NW Curb-Lane Adjustment-CONCEPT.pdf
Importance: High

Team,

I am following up on our 4th/Stewart Signal Cabinet discussion today with the City of Puyallup (City), Sound Transit (ST) and Hensel Phelps (HP) Team. Attached are the (3) documents reviewed in today's discussion, including: 1) Concept Design of 4th/Stewart Signal Cab Shift, 2) Conduit Fills for Temp and Proposed/Final condition of existing W Stewart conduit crossing and 3) 5th St NW curb/lane adjustment.

In addition, I have included a few notes from our discussion – Please let me know if you have any edits or additions to my notes.

Next Steps:

1. **City to Provide Comments on the 4th/Stewart Signal Cab Concept + Fills & 5th St NW Curb/Lane Adjustment Concept** – City of Puyallup to review the attached 4th/Stewart Signal Cabinet concept design + conduit fills and 5th St NW curb/lane adjustment
 - a. **Additionally Confirm Signal Cab & Controller Type for Each Location** – Bryan Roberts is reviewing correspondence forwarded separately by Concord to confirm the final City requested Signal Cabinet, Signal Controller and Batter Backup System Types for EACH location for the project.
2. **HP Team to Prepare Plan Change Request for ALL Materials for City Review**

Notes:

- **5th St NW Curb/Lane Adjustment:**
 - Group reviewed the proposed curb/lane adjustments along west side of 5th St NW – This modification is in response to request from BNSF to meet their current standards
 - City confirmed no initial concerns with the proposed curb/lane adjustments, but will review and provide any initial comments prior to the preparation of formal Plan Change Request document submittal
 - City requested restoration with Curb/Gutter at HMA roadway section and then doweled curb at Concrete roadway section
- **4th Stewart Concept Design:**
 - Group reviewed the proposed 4th/Stewart Signal Cabinet relocation concept and the Temporary and Proposed/Final conduit fills for the W Stewart conduit crossing.
 - Specific to Conduits and Conduit Fill Calculations items discussed:

- **W Stewart Crossing**
 - Conduit fill calculations provided ONLY covers the (2) existing conduits crossing N-S on W Stewart; ALL other existing conduit fills assumed to be maintained (or stay within code limits)
 - Concord confirmed that the “Temporary” conduit fill condition duration in the calculations provided would be limited to one or two days as the upgrades were made in the field – This approach maintains as much signal operation as possible during the upgrades
 - Concord confirmed Power/Illumination cabling included in the 1.5” conduit, and Signal cabling in the 2”
- **Spare Conduits** - Concord confirmed (1) spare 2” conduit provided with the new conduits provided in the NE quadrant of the intersection for new power service – no other spares provided in concept design
 - City indicated this should be sufficient
- Specific to Restorations:
 - City confirmed replacement of (2) curb ramps on the south and east side of the island in the NE quadrant would need to be replaced; the west ramp is intended to remain untouched in these upgrades
 - City requested removal of as much of the existing signal cabinet foundation as possible as part of restoration in the SE quadrant
 - City confirmed the balance of restoration would include sidewalk panel replacement – NO curb ramps impacted in this SE quadrant
- City did not identify any immediate concerns with the concept, but noted they need to review with their Signal Technicians early next week
- City did not identify any immediate concerns with the Temporary and Proposed/Final conduit fills, but noted they need to review with their Signal Technicians early next week
 - City will reach out to Concord (Yilin and Syed) with any questions on the 4th/Stewart Concept and conduit fills as they review.

Thank you again for the group’s time today reviewing.



Jeff Lehman, PE

Associate

☎ 206.622.5822 ☎ 206.926.0596

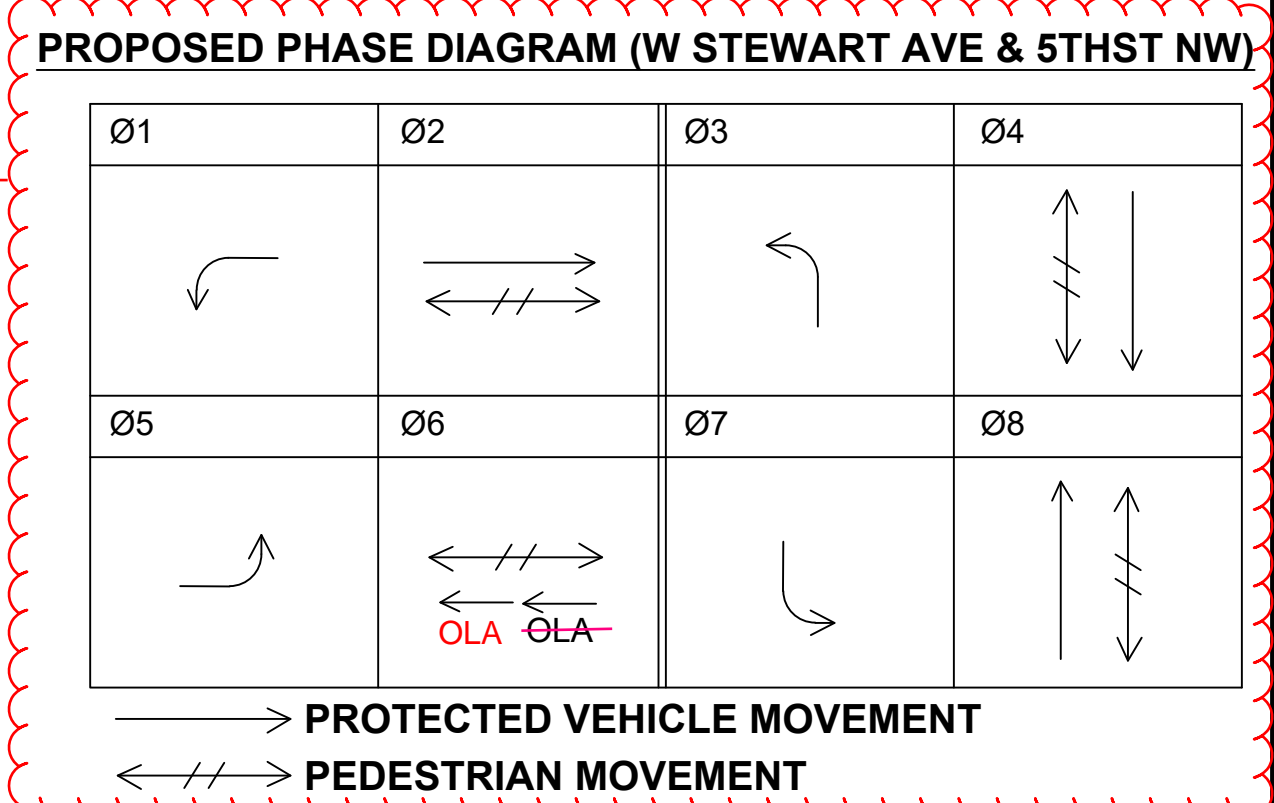
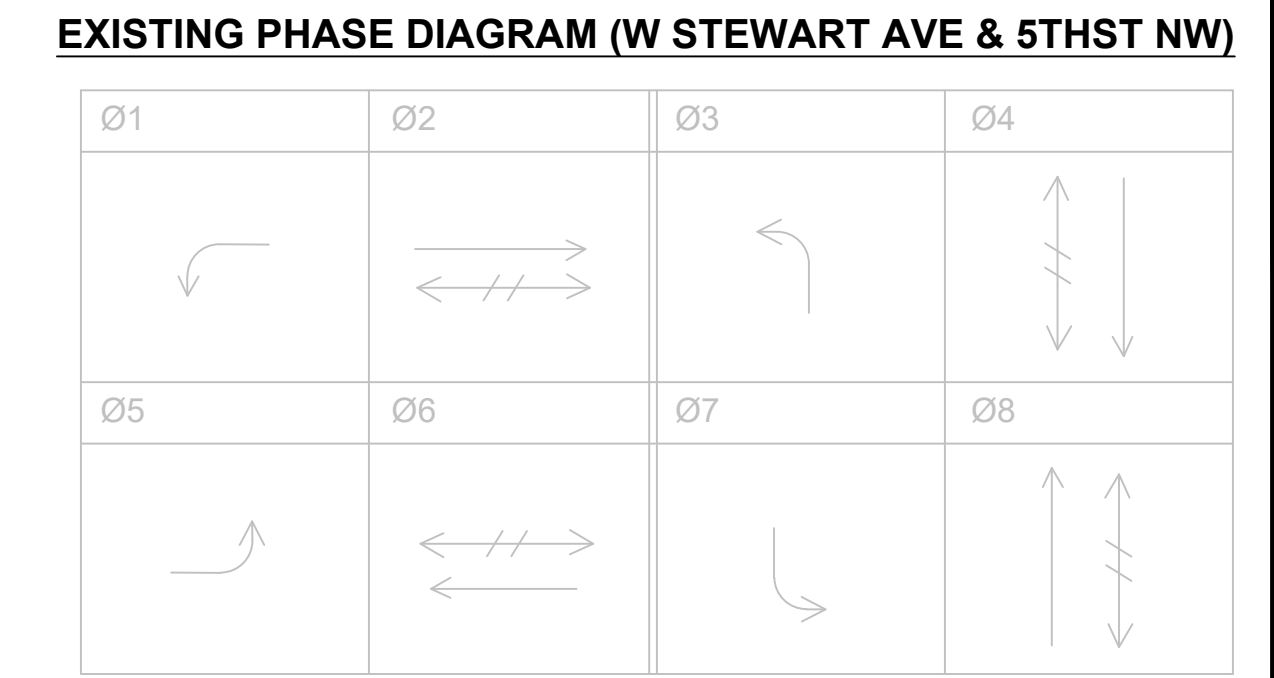
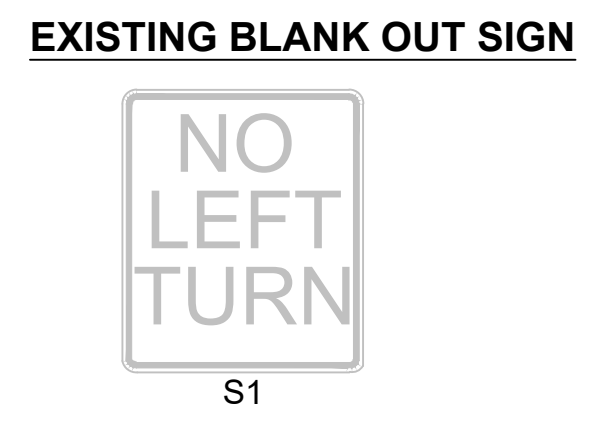
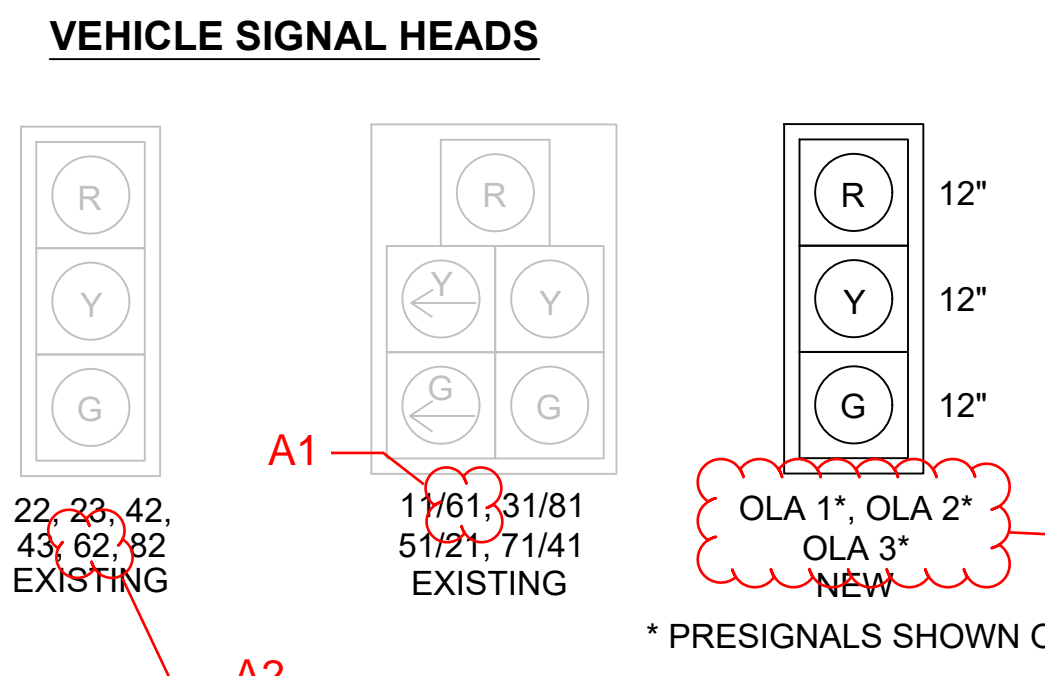
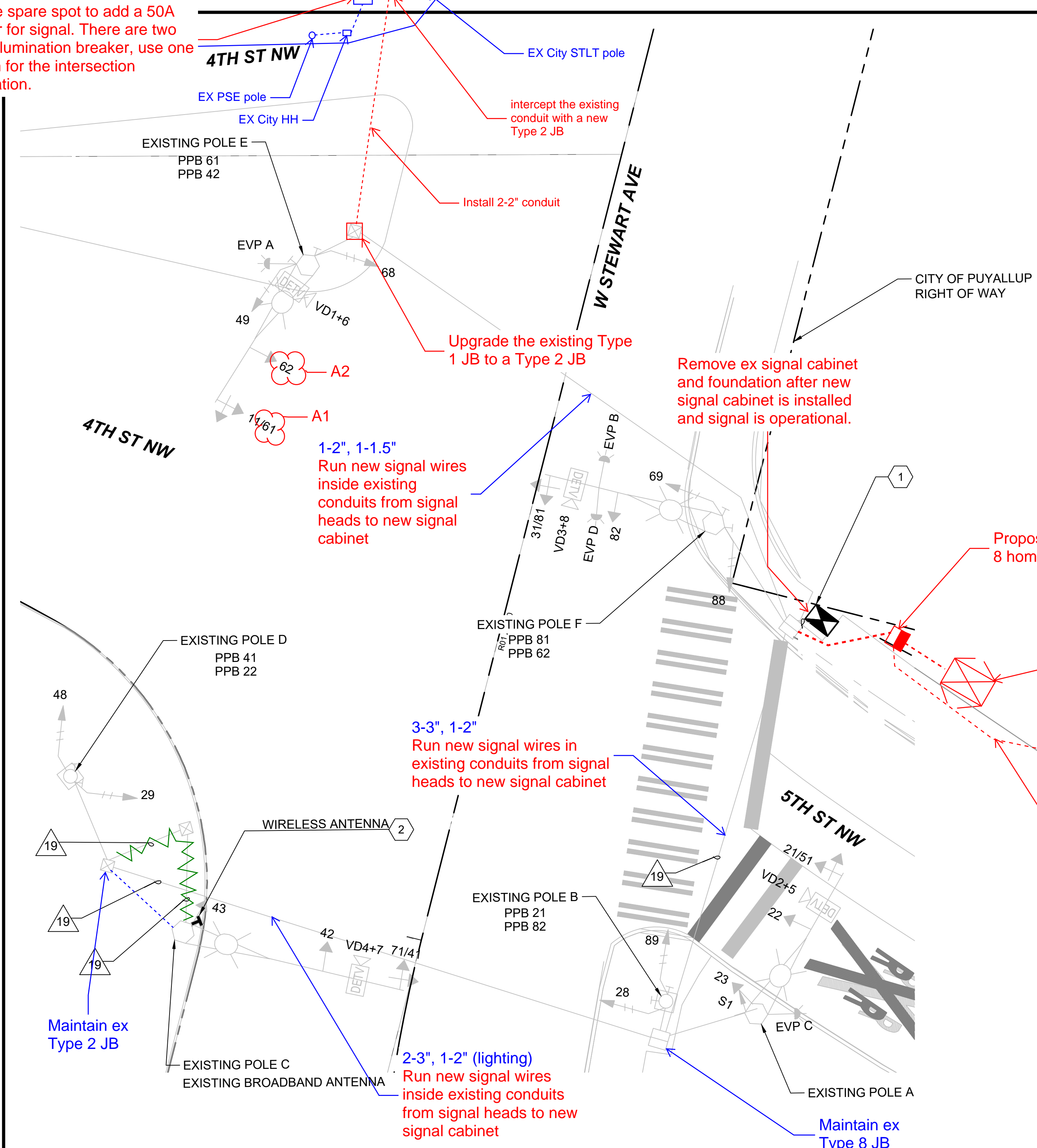
1601 Fifth Avenue, Suite 1600

Seattle, WA 98101

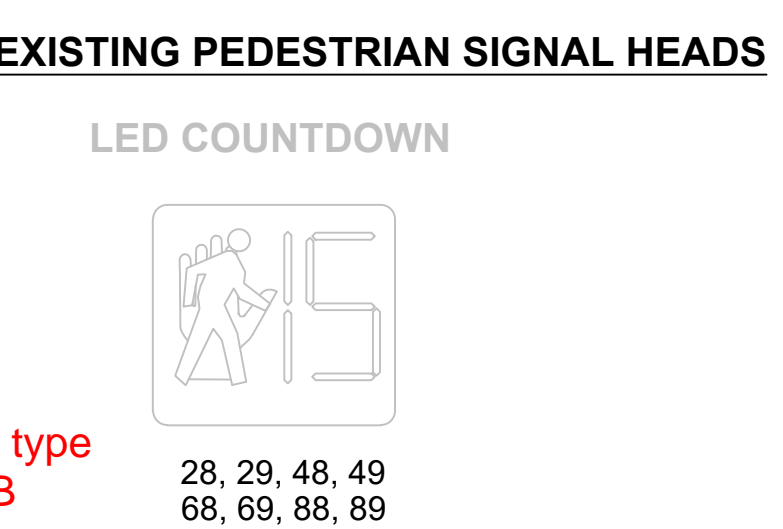
EX service cabinet.
 Use the spare spot to add a 50A breaker for signal. There are two spare illumination breaker, use one of them for the intersection illumination.

CONCEPT TRAFFIC SIGNAL SHEETS (10/7/2021)

Xrefs: x5317-F1592-TSP100, x5317-F1592-TSP101, x5317-F1592-TSP201, x5317-F1592-TSP202, x5317-F1592-TSP203, x5317-F1592-TSP204, x5317-F1592-TSP205, x5317-F1592-TSP206, x5317-F1592-TSP207, x5317-F1592-TSP208, x5317-F1592-TSP209, x5317-F1592-TSP210, x5317-F1592-TSP211, x5317-F1592-TSP212, x5317-F1592-TSP213, x5317-F1592-TSP214, x5317-F1592-TSP215, x5317-F1592-TSP216, x5317-F1592-TSP217, x5317-F1592-TSP218, x5317-F1592-TSP219, x5317-F1592-TSP220



Update proposed phase diagram - add overlap phasing for NB pre-signal operations



Propose new type 8 homerun JB

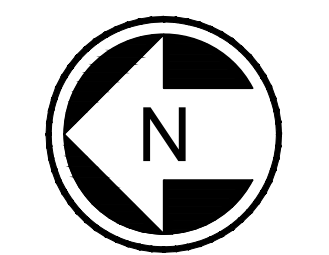
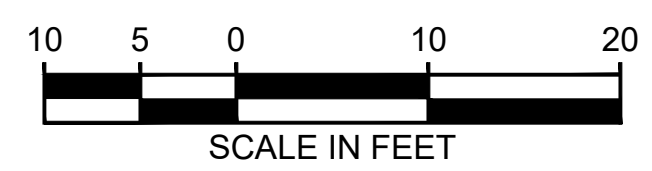
Propose a new 350i ATC cabinet outside the sidewalk, within the City's ROW approx. 10 ft from the original location. BBS inside the cabinet, terminations at the backside of the cabinet. Give 8ft clearance for sidewalk.

New conduit for pre-signal and RR preemption

Other notes:

1. Use 5C signal cables
2. Use 3C for pedestrian signal cables
3. New conduit for pre-signal and RR preemption wires connects to the new homerun JB, not the existing homerun JB.
4. Need to work with Rhythm Engineering to make sure the adaptive signal equipment will be configured with the new signal cabinet.
5. Conduits crossing east leg are RGS conduits. They might rust already which may have issues when pulling cables.

PREEMPTION SCHEDULE	
EVP	PHASE
EX A	Ø2 & Ø5
EX B	Ø4 & Ø7
EX C	Ø6, Ø1 & OLA
EX D	Ø8 & Ø3

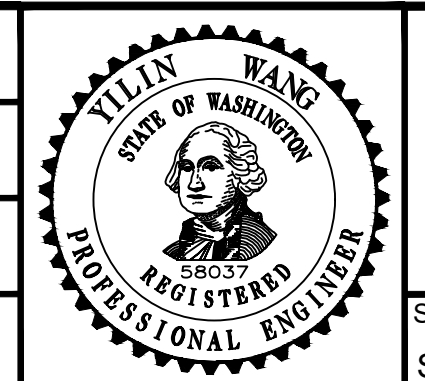


08/18/21 | 8:33 AM | BRENNANN
 H:\(P) PROJECTS\2018\18.57 (KPF) ST PUYALLUP STATION DESIGN BUILD\04 CAD\01 SHEETS\S317-F1592-TSP201.DWG

CONCEPTUAL DESIGN

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: Y. WANG
 DRAWN BY: B. NIEHOFF
 CHECKED BY: S. RAHMAN
 APPROVED BY: Y. WANG



SUBMITTED BY: SARA ROBERTS
 DATE: XX/XX/XXXX
 REVIEWED BY: GREG SHIMIZU

PACKAGE # DP-3
 SCALE: 1" = 20'
 FILENAME: S317-F1592-TSP201
 CONTRACT No.: RTA/CN 0612-18
 SUBMITTAL DATE: 08/13/2021

PUBLIC RIGHT-OF-WAY STREET IMPROVEMENTS

PUYALLUP STATION PARKING
 CONTRACT RTA/CN 0612-18
 PUYALLUP STATION PARKING AND ACCESS IMPROVEMENTS

TRAFFIC SIGNALIZATION PLAN - 5TH ST NW AND W STEWART AVE

DRAWING No.: **F1592-TSP201**
 FACILITY ID: F1592
 SHEET No.: REV:

CONCEPT TRAFFIC SIGNAL CONDUIT FILLS (10/7/2021)

Conduit Fill Calculations - Temporary Condition

Location: 4th St NW/W Stewart Ave (East Leg Existing)
Package: F1592 PSAI DP-3 Public Right-of-Way Street Improvements
Prepared by: B. Niehoff
Checked by: S. Rahman
Date: 9/29/2021
File: Conduit Fill Calculations - 4th.xlsx

DWG #	Location	Conduit Run	Conduit Size (in)	New or Existing	PPB	SIGNAL CABLE	SIGNAL CABLE	SIGNAL CABLE	PREMPT OPTICOM	CAMERA POWER	SERVICE	ILLUM.	DUAL ELEM	Cat5e	GROUND	CONDUIT AREA	CONDUIT %OF FILL	CONDUIT %OF FILL	CONDUIT %OF FILL
F1592-TSP201	4th St NW/W Stewart Ave	1	1.5	Existing	2C(SH)	3C	5C	7C	3C(SH)	3C	#4	#8	6C	Ethernet	#6	FILLED	@100%	@40%	@26%
		2	2	Existing	4	2	5	1	2	1	2	2	1	1	1	0.338	20%	49%	76%
																1.638	57%	142%	219%

Note: Temporary condition is when pulling new wires, the existing traffic signals are still operational. New signal wires and existing wires are both inside the conduits in the temporary condition. The existing wires will be removed in the proposed condition.

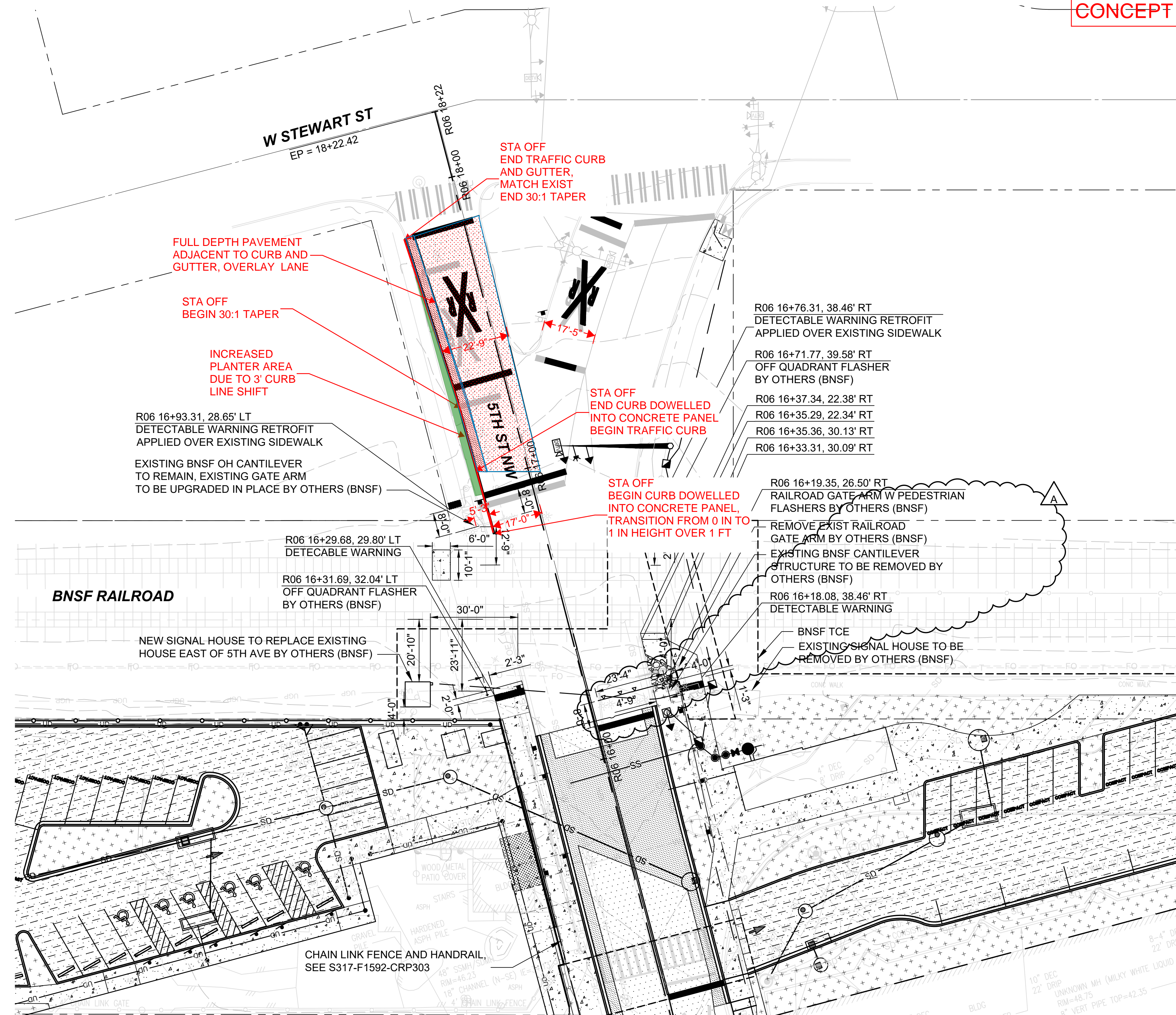
Conduit Fill Calculations - Proposed Condition

Location: 4th St NW/W Stewart Ave (East Leg Existing)
Package: F1592 PSAI DP-3 Public Right-of-Way Street Improvements
Prepared by: B. Niehoff
Checked by: S. Rahman
Date: 9/29/2021
File: Conduit Fill Calculations - 4th.xlsx

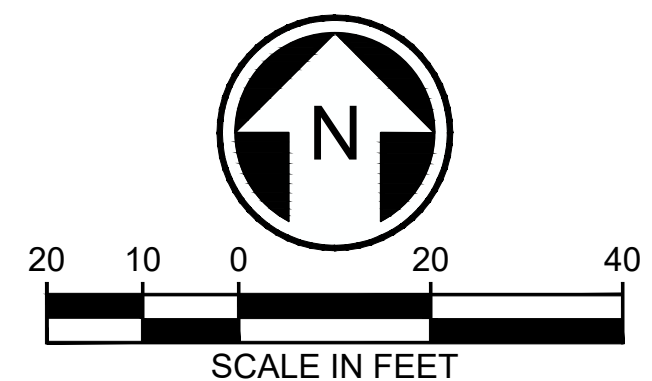
DWG #	Location	Conduit Run	Conduit Size (in)	New or Existing	PPB	SIGNAL CABLE	SIGNAL CABLE	SIGNAL CABLE	PREMPT OPTICOM	CAMERA POWER	SERVICE	ILLUM.	Cat5e	GROUND	CONDUIT AREA	CONDUIT %OF FILL	CONDUIT %OF FILL	CONDUIT %OF FILL
F1592-TSP201	4th St NW/W Stewart Ave	1	1.5	Existing	2C(SH)	3C	5C	3C(SH)		3C	#4	#8	Ethernet	#6	FILLED	@100%	@40%	@26%
		2	2	Existing	2	2	2	1	1	2	2	1	1	1	0.338	20%	49%	76%
																0.768	27%	67%

NOTES:

1. FOR HORIZONTAL CONTROL OF PAVEMENT, CURBS AND SIDEWALKS, SEE DRAWINGS F1592-CRP301 THROUGH F1592-CRP308.
2. FOR PAVEMENT MARKINGS AND SIGNAGE, SEE DRAWINGS F1592-CMP301 THROUGH F1592-CMP308, F1592-CMS301, AND F1592-CMS302.
3. FOR TRAFFIC SIGNAL AND ASSOCIATED EQUIPMENT INSTALLATION, SEE DRAWINGS F1592-TSP301 THROUGH F1592-TSP308.
4. FOR CURB RETURN GRADING ENLARGEMENTS, SEE DRAWINGS F1592-CPD031 THROUGH F1592-CPD038, AND F1592-CPD131 THROUGH F1592-CPD138.
5. CONTACT BNSF PRIOR TO ANY WORK WITHIN BNSF RIGHT-OF-WAY OR ANY WORK AFFECTING GRADE CROSSING OPERATIONS.
6. CONTACT BNSF VIA 1-800-533-2891 TO LOCATE ALL UTILITY LOCATIONS PRIOR TO ANY DIGGING WORK.
7. 5TH ST DOT #085699A, SEATTLE SUBDIVISION
7TH ST DOT #085700S, SEATTLE SUBDIVISION



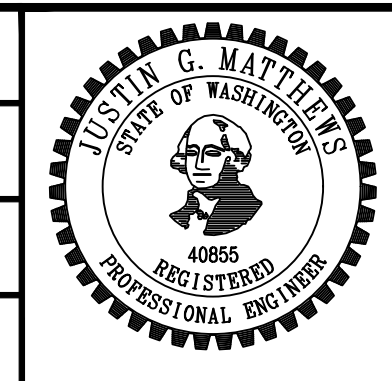
5TH ST RAILROAD CROSSING ENLARGEMENT
SCALE: 1" = 20' 1
F1592-CGP303



NOT FOR CONSTRUCTION

100% SUBMITTAL

DESIGNED BY:
B. PILON
DRAWN BY:
M. VU
CHECKED BY:
J. MATTHEWS
APPROVED BY:
J. MATTHEWS



SUBMITTED BY:
SARA ROBERTS

DATE:
XX/XX/XXXX

REVIEWED BY:
GREG SHIMIZU

PACKAGE # DP-3 PUBLIC RIGHT-OF-WAY STREET IMPROVEMENTS

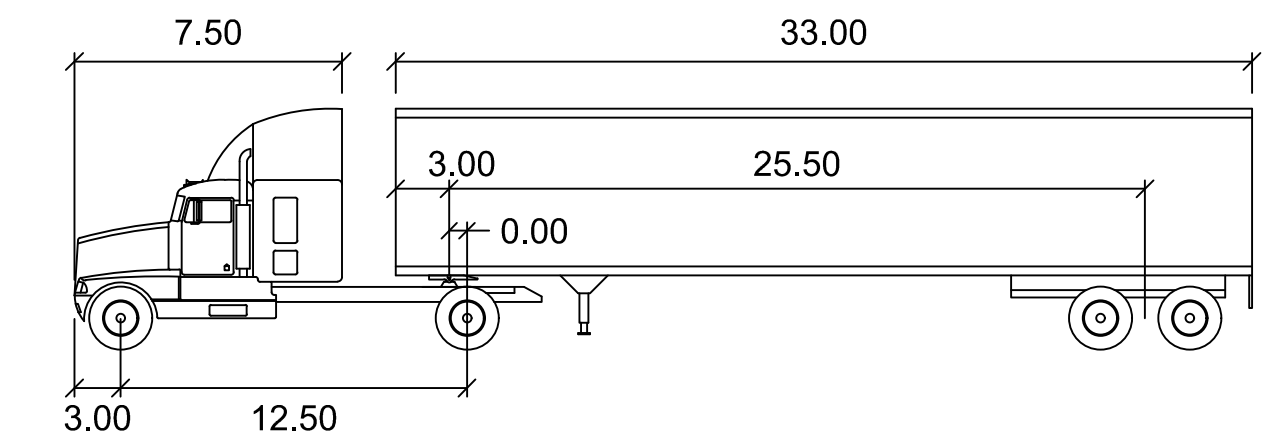
SOUNDTRANSIT
SCALE: 1" = 20'
FILENAME: S317-F1592-CPD138
CONTRACT No.: RTA/CN 0612-18
SUBMITTAL DATE: 12/10/2020

PUYALLUP STATION PARKING
CONTRACT RTA/CN 0612-18
PUYALLUP STATION PARKING AND ACCESS IMPROVEMENTS
RAILROAD CROSSING ENLARGEMENT

DRAWING No.: **F1592-CPD138**
FACILITY ID: F1592
SHEET No.: REV: A

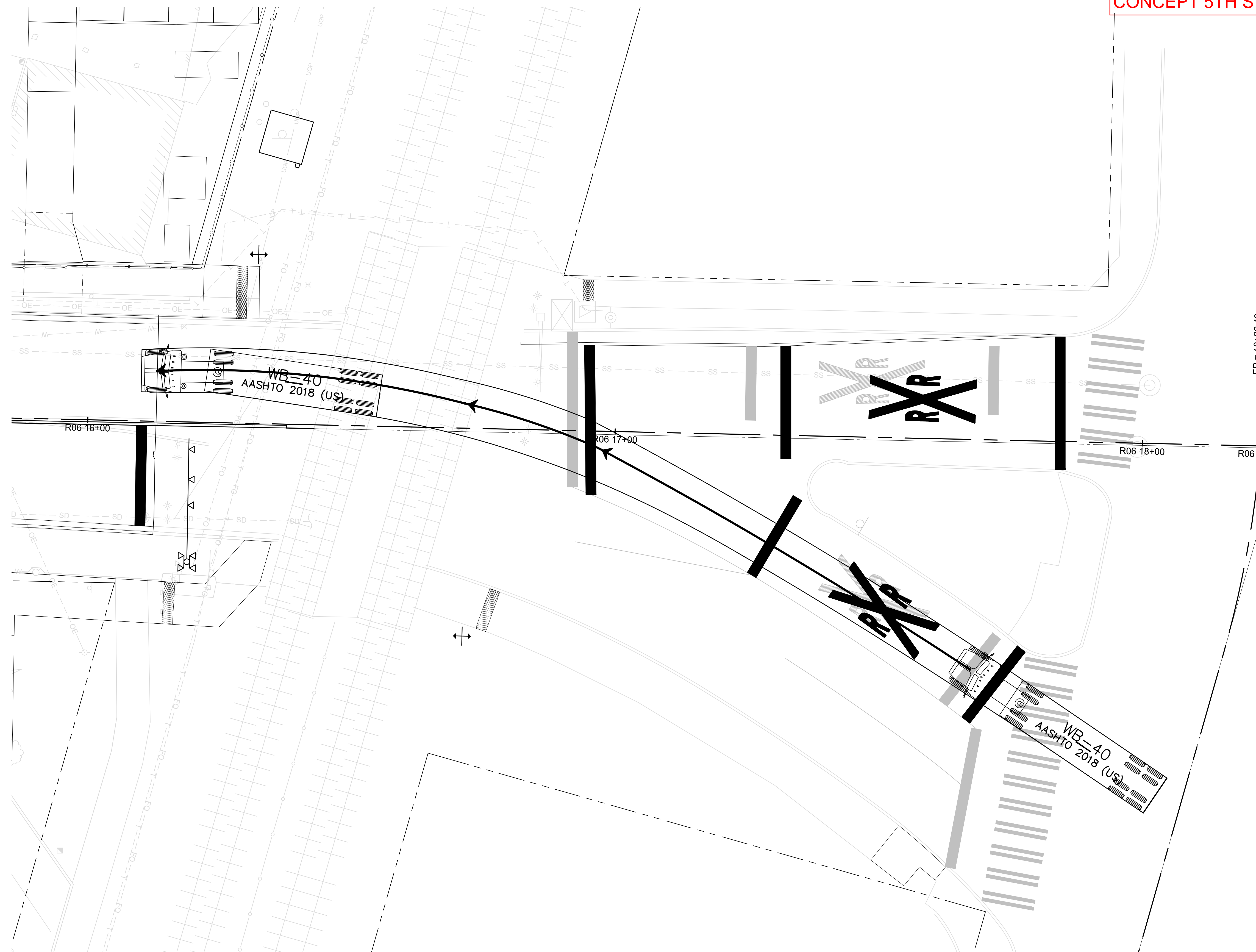
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CONCEPT 5TH ST NW CURB ADJUSTMENT SHEETS (10/7/2021)

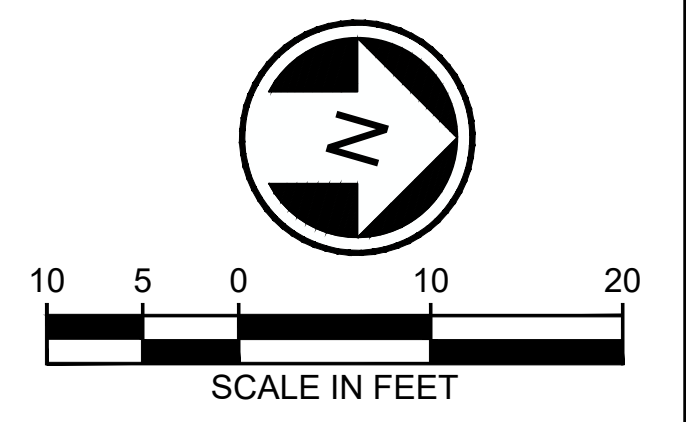


WB-40

	feet		
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.00	Steering Angle	: 20.3
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.00		



EP = 18+22.42



NOT FOR CONSTRUCTION

Xrefs:
 xS317-F1592-VRX100
 xGB-TB-Views_x20
 xS317-F1592-CSP100
 xS317-F1592-CMP100
 xS317-F1592-CLP100
 xS317-F1592-TSP100
 exhibit title intersection

06/21/21 | 10:20 AM | BRENT P
 \KPF\CORP\CIVIL\1900001-1900999\1900096 ST PUYALLUP DB GARAGE\ENGINEER\BSP100PCT PERMIT\2021.06.17 CURB SHIFT\EXHIBIT INTERSECTIONS 5TH CURB SHIFT.DWG



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**PUYALLUP STATION PARKING
 CONTRACT RTA/CN 0612-18
 INTERSECTION EXHIBIT**