



SR 520 Eastside Transit & HOV Design/Build Project Utility Agreement—City of Bellevue/WSDOT



AWWA Spring Conference—Bellevue, WA

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Question: Regarding the following two events, which of the following statements is false:



- A. They both involve water (one is cold, one is hot).
- B. They are both really cool to watch (c'mon, admit it!).
- C. They both occur without warning.

(Answer: C. Old Faithful geyser regularly erupts every 35 to 120 minutes)

Okay, the scenario on the left is not necessarily something you'll want to gaze at in awestruck wonder for very long, because among other things it could lead to...



...this.

But if you'd like to learn how you can try to avoid creating another "visitor attraction", then please stick around.

Purpose of Presentation

- **Inform** City and Utility agencies affected by WSDOT construction projects.
- **Prepare** for utility conflicts and necessary relocations when WSDOT projects impact your existing utility infrastructure.
- **Manage** the work during design/build process.
- **Emphasize** the importance of good working relationships



Abstract

The Washington State Department of Transportation's (WSDOT) 520 Eastside Transit and HOV Project created impacts to Bellevue's water, sewer and storm utilities to be addressed as part of the State's design/build (D/B) contract. Bellevue and WSDOT signed a Utility Agreement that **identified anticipated impacts**, included **provisions for unanticipated impacts**, agreed on how impacted utilities would be relocated/replaced, and established **agreed-upon unit costs** based on estimated quantities. **Close coordination was critical** between WSDOT, the D/B contractor, Bellevue's Utility and Transportation department representatives during construction. This included **weekly coordination meetings**, on-going inspections, **coordination of shut-downs** and operation of systems to minimize interruption of services, and related **coordination with neighboring jurisdictions**. Utility **"betterments"** (e.g. upsizing of water and sewer mains in anticipation of future growth) were identified where possible to **assure work was "forward compatible"** and would **best utilize Bellevue Utility's available funds**.



520 ETHOV Project Overview

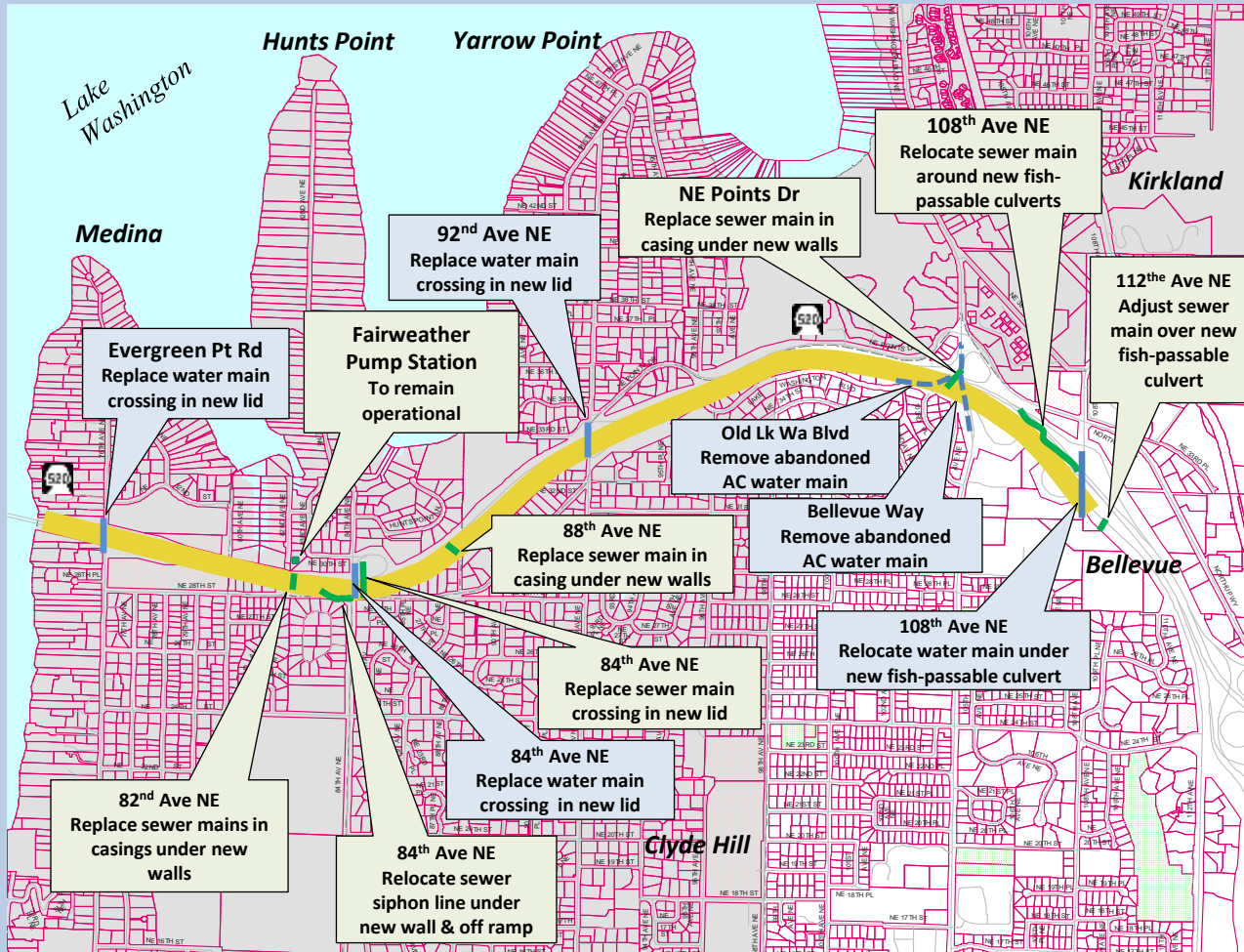
- Widening SR 520—Lake Washington to E of 108th Ave NE
- \$455M WSDOT project budget
- \$1.15M original (\$1.51M amended) Bellevue Utilities conflicts
- Establishment of CIP funding for anticipated work
- Schedule:
 - Spring-Fall 2010 Negotiate Utility Agreement w/ WSDOT
 - Spring 2011 Construction started
 - Summer 2015 Construction completed
- Many local jurisdictions impacted
- Several City Departments involved
- Internal and inter-agency coordination



SR 520 / Eastside Transit & HOV Project



Identified Water & Sewer Conflicts



Primary Utility Conflicts



Sewer:

- Encase gravity & force main xings under walls
- Maintain pump station access for maintenance
- Reconstruct siphon line alignment
- Relocate gravity mains (fish-passable culverts)
- Maintain manhole access at stream daylighting



Water:

- Replace mains on three freeway lids
- Relocate main around detention ponds
- Remove AC main at detention ponds
- Relocate main (fish-passable culverts)
- Relocate fire hydrants



Stormwater:

- Replace/relocate storm drains & catch basins
- Most work within other jurisdictions

Category 1 vs. Category 2 Utilities

Category 1 = City of Bellevue Utilities pays for relocation

- Utility within WSDOT right-of-way
- Utility Permit required by WSDOT, issued to City
- Utility items identified by quantity, unit cost & total cost

Category 2 = WSDOT pays for relocation

- Utility within City property, right-of-way or easement
- Utility with no current permit
- Utility items identified but not quantified



Utility Construction Agreement

- City identified Utility work to be addressed
- WSDOT to incorporate utility work into D/B contract
- City to reimburse WSDOT for Category 1 utility costs
- WSDOT agrees to pay for Category 2 utility costs
- Work in accordance with current City Utility Engineering Standards
- Provisions for:
 - Changes in Scope of Work
 - Betterments
 - Amendments
- Standard legal stuff



Exhibit B - Costs



UT 01490 UTILITY CONSTRUCTION AGREEMENT SR 520: Medina to SR 202, Eastside Transit and HOV/WORK BY STATE Exhibit B Costs			
Water Items	Estimated Quantity	Unit Cost	Total Cost
a. 8-Inch DI (Ductile Iron) Water Main Pipe, Class 52	950 LF	\$113/LF	\$ 107,350.00
b. 12-Inch DI Water Main Pipe, Class 52	1,150 LF	\$138/LF	\$ 158,700.00
c. 12-Inch DI Water Main Pipe, Class 52 with Steel Casing	380 LF	\$263/LF	\$ 99,940.00
d. Remove Existing 6-Inch AC Water Main Pipe	1,700 LF	\$25/LF	\$ 42,500.00
e. Replace Existing Hydrant Assembly*	8 EA	\$2,500 EA	\$ 20,000.00
f. Adjust Existing Water Valve Box to Grade*	10 EA	\$250 EA	\$ 2,500.00
g. Replace Existing 1-Inch Copper Water Service*	10 EA	\$1,500 EA	\$ 15,000.00
h. Surface Restoration	100 SY	\$75 SY	<u>\$ 7,500.00</u>
	Total Water Items		\$ 453,490.00
Sanitary Sewer Items	Estimated Quantity	Unit Cost	Total Cost
a. 8-Inch PVC** Sewer Main Pipe with Steel Casing	100 LF	\$313/LF	\$ 31,300.00
b. 8-Inch HDPE+ Sewer Siphon Pipe	300 LF	\$188/LF	\$ 56,400.00
c. 10-Inch PVC** Sewer Main Pipe	460 LF	\$225/LF	\$ 103,500.00
d. 10-Inch PVC** Sewer Main Pipe with Steel Casing	340 LF	\$331/LF	\$ 112,540.00
e. 12-Inch PVC Sewer Main Pipe	1,310 LF	\$225/LF	\$ 294,750.00
f. 12-Inch PVC** Sewer Main Pipe with Steel Casing	100 LF	\$350/LF	\$ 35,000.00
g. Adjust Ex. Sewer Manhole to Grade (Cover Only)	15 EA	\$1,000 EA	\$ 15,000.00
h. Adjust Ex. Sewer Manhole to Grade (Cover/Cone/Barrel Section)	15 EA	\$3,000 EA	\$ 45,000.00
i. Surface Restoration	100 SY	\$75/SY	<u>\$ 7,500.00</u>
	Total Sewer Items		\$ 700,990.00
	Total Water & Sewer Items		\$ 1,154,480

Notes:

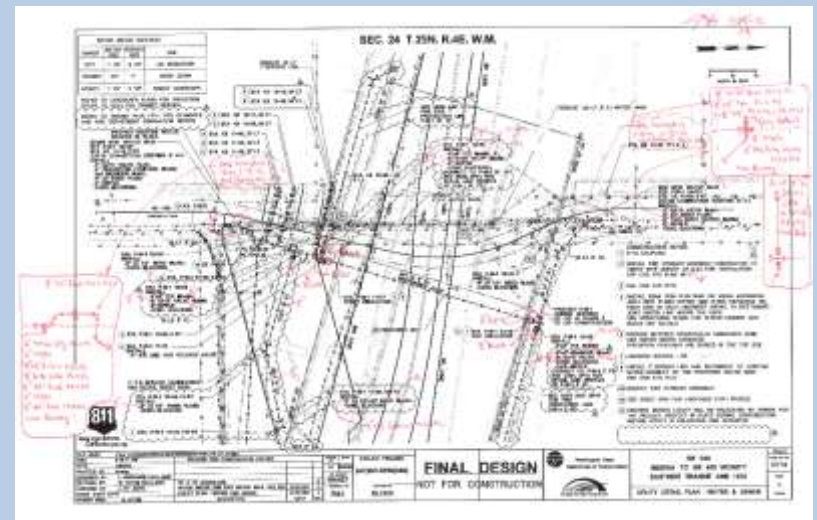
- * Quantity/cost shown pertains only to those items that are Category 1 Utilities. Similar work may be needed for unidentified Category 2 Utilities. Adjustments to the quantity of Category 1 Utility Work shown shall be in accordance with Section 4.5 of Exhibit A of this Agreement.
- ** PVC pipe shall be AWWA C-900 PVC, DR 18; PVC pipe not indicated as such shall be ASTM D-3034, SDR 35.
- + HDPE pipe shall match DR of existing HDPE siphon line (to be confirmed during design/build process).

- (1) All work shall be completed in accordance with the City-approved plans and specifications per Section 1.3 of the Agreement.
- (2) Unit costs shown include sales tax, design and construction inspection costs.
- (3) Unit costs for all LF pipe items above include complete installation including fittings, valves (for water main pipes), manholes (for sewer mains where necessary) and other appurtenances, connection to existing system, re-channeling existing manholes, trench excavation, backfill and compaction, testing, imported material, non-pavement surface restoration, temporary erosion and sedimentation control, traffic control, handling, removal and disposal of existing asbestos cement (AC) pipe where necessary, and mobilization. Costs do not include pavement patching or pavement overlay.
- (4) Unit cost for Replace Existing Hydrant Assembly includes complete installation including fittings, connection to main, hydrant run of pipe from main to hydrant, valve at main, trench excavation, imported backfill material, thrust blocking, compaction, testing, non-pavement surface restoration, temporary erosion and sedimentation control, traffic control, handling, removal and disposal of existing asbestos cement (AC) pipe where necessary, and mobilization. Costs do not include pavement patching or pavement overlay.
- (5) Unit cost for Replace Existing 1-Inch Copper Water Service includes complete installation assuming a standard size copper service line including fittings, meter box and setter, and other appurtenances, connection to existing system, trench excavation, backfill and compaction, testing, imported material, non-pavement surface restoration, temporary erosion and sedimentation control, traffic control, handling, removal and disposal of existing asbestos cement (AC) pipe where necessary, and mobilization. Costs do not include pavement patching or pavement overlay. City will furnish meter.
- (6) Unit cost for Surface Restoration includes complete installation of asphalt concrete pavement patching, asphalt concrete pavement overlay, and cement concrete pavement replacement including curb, gutter and sidewalk, all to be limited to outside of WSDOT's Project surface restoration areas.



Design/Build Process for Utility Work

- Performed on-going design reviews and provided comments
- Attended weekly meetings between City, WSDOT, D/B
- Performed on-going inspections by City construction inspector
- Close coordination with City O&M personnel
- Coordinated service shutdowns with local jurisdictions
- Maintained record drawings of as-constructed work
- Submitted periodic payment summaries to WSDOT



External and Internal Coordination

External—local agencies/jurisdictions:

- Bellevue Utilities (Water and Sewer):
 - Serves Medina, Hunts Point, Yarrow Point, Clyde Hill
 - Coordinates with Kirkland (water)
- Importance of maintaining cooperative working relationships
 - Interruption in services
 - Temporary connections (Evergreen Pt, Yarrow Pt examples)

Internal—City departments:

- Fire—private and public systems
- Transportation—overall coordination
- Parks—water services for irrigation
- Development Services—service permits, stormwater reviews



Water Main Crossings on Lids



Sewer Main Relocations



Sewer Siphon Line Relocation



Miscellaneous Hydrant & Service Relocations



Before and After (looking east from Evergreen Pt Rd)



Before and After (looking west from Evergreen Pt Rd)



The End

Thank you for attending!

