



Gas Facility Replacement Program (GFRP)

Aldyl A Main Pipe Replacement & Service Tee Transition Rebuilds (STTR)

Presented by:

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PHMSA & UTC

Training & Qualification (T&Q)

Gas Regulations and Code Compliance Seminar

May 13, 2015



PART 1 – BACKGROUND & APPROACH

- ❑ ALDYL A MAIN PIPE REPLACEMENT
INCLUDES 1 ¼" TO 4" DIAMETER
PIPE INSTALLED 1964 TO 1987

WORK INCLUDES REPLACEMENT OF ALL
ALDYL A MAIN PIPE & SERVICE TOWERS



LINEAR PROJECTS

- ❑ SERVICE TEE TRANSITION:
A BENDING STRESS OCCURS
WHERE ALDYL A SERVICE PIPE
CONNECTS TO THE TEE ON THE
STEEL MAIN PIPE

SERVICE TEE TRANSITION REBUILDS
(STTR) ELIMINATES BENDING STRESS



POINT PROJECTS

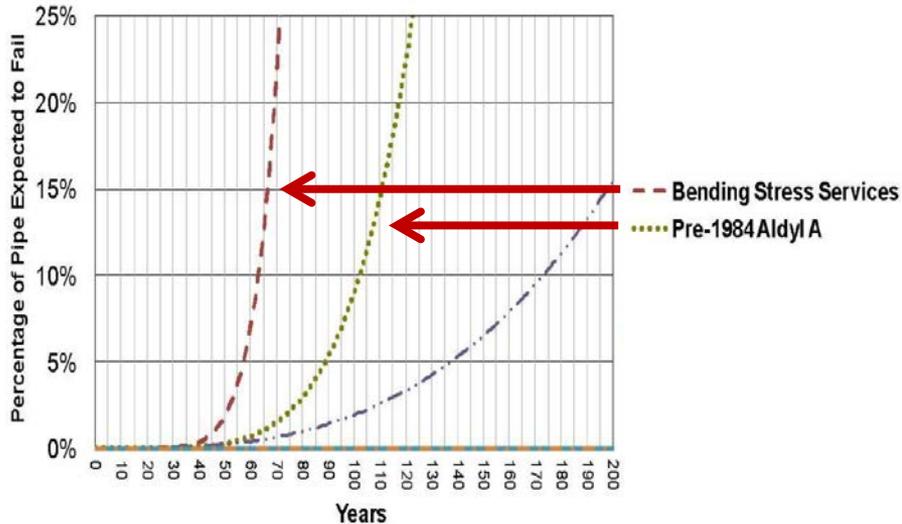
MANAGING THE ASSETS

PROTOCOL FOR MANAGING ALDYL 'A' PIPE

AVISTA ASSET MANAGEMENT
(FEBRUARY 2012)

20 YEAR TIME FRAME IS OPTIMUM

Forecast Failure Rates for Natural Gas Piping



DISTRIBUTION INTEGRITY MANAGEMENT PLAN (DIMP)

KNOW WHAT IS IN YOUR SYSTEM

IDENTIFY THREATS

EVALUATE & RANK RISKS

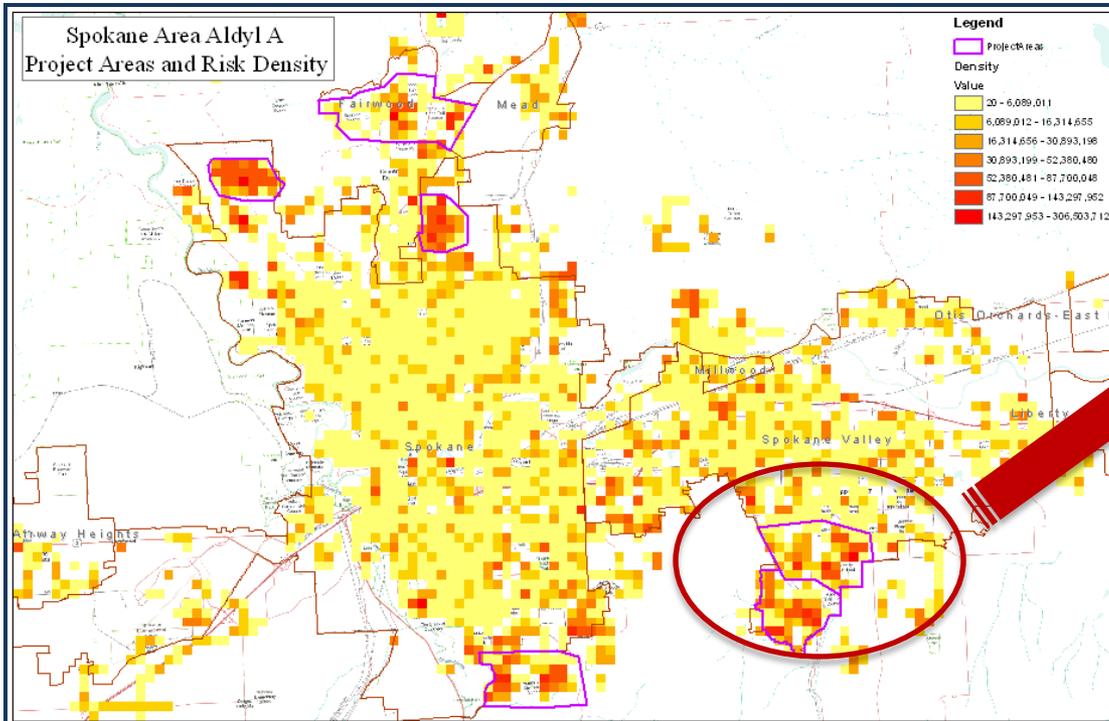
IDENTIFY & IMPLEMENT MEASURES
TO REDUCE RISK

MEASURE / MONITOR & EVALUATE
EFFECTIVENESS

REPORT RESULTS

LEAK SURVEYS CONTINUE TO
CAPTURE NEW DATA &
IDENTIFY THREATS

GIS BASED WORK PLANNING & DESIGN



HEAT MAP PRIORITIZATION

MAIN PIPE ROUTING & METHOD OF INSTALLATION

MUNICIPAL COORDINATION



PROJECT RIGHT-SIZING



PROJECT PHASING

GIS BASED WORK PACKAGING

GEOGRAPHIC WORK PACKAGING

2803 E ILLINOIS AVE		SPOKANE STTR ALDYL REPLACEMENT		Job # 491352576
Customer Name: Phone (Home): Phone (Work): Project #: 9501128 <input type="checkbox"/> Commercial <input type="checkbox"/> Residential <input type="checkbox"/> Retro <input type="checkbox"/> New Construction <input type="checkbox"/> In City <input type="checkbox"/> Heating <input type="checkbox"/> Water <input type="checkbox"/> Range <input type="checkbox"/> Fireplace <input type="checkbox"/> Other <input type="checkbox"/> Out of City Tax Code: Rate: 101 Coordinates: Lat: 47.6823731526884 Long: -117.369319585477		Tee Id: 15573 Phase: 19 Service Zip: 99207		
METER REQUIREMENTS Delivery Pressure: Load: Meter Size: AC250TC Number: .00110981 Road: ERT # ERT Not Installed Flow: Lockup Location @: Riser Type:		CONSTRUCTION ESTIMATES Main service: ft Bore: ft EOP: Curb EFV # 2nd Valve # Joint Use: Phone TV Fl. Installed Joint Use: Phone TV Fl. Installed		EFV INFO EFV MFG: Model: Capacity: CFH Size: Type: <input type="checkbox"/> TEE <input type="checkbox"/> STICK
LOCATES Permit Applied For: Locates Requested: SINE/25N/43E Ticket #: EOP Zone: S3		CONSTRUCTION CREW REMARKS Initiated Service Order Number:		
PRESSURE TEST <input type="checkbox"/> Test Chart Attached Test Medium Used: P505 Pressure Tested to: Time of Day Test Started: Test Failed: <input type="checkbox"/> repair, retest, record info on new form The "As Constructed" information indicated on this permit is correct. All construction completed with correct Company standards/specifications. Date of Test: Avista Inspector/Foreman		CREW PRN COMMENTS		
		TAP INFORMATION Location: Size: From: Type:		
SPECIAL INSTRUCTIONS 1. All work performed shall comply with current Avista Gas Standards, and be performed by qualified operators. At all times crew members shall be identified by Avista ID badge & Operator Qualifications. 2. Crews shall perform STTR work, and shall bring Meter Set Assembly MSA up to current Avista Gas Standards. 3. All work performed in the right-of-way (ROW) shall comply with local jurisdiction/agency permits and road restoration requirements. 4. Crews shall execute all required compliance documents during the work, and return Job Packets to assigned Avista Representative or Avista job closer immediately upon completion of the work. 5. Crews shall photo document (digital) pre-rebuild and post re-build conditions at each STTR & MSA location. Photos are to be named according to the Work Management System (WMS) job number, job address, and shall be transmitted electronically to the assigned Avista Representative, or Avista job closer immediately upon completion of the work.				
		Route To: Avista Representative Print Date: 02-19-2014		



17,000 ASSOCIATED & AUTOMATED SERVICE CARDS

PRE-CONSTRUCTION RECORDS VALIDATION



REQUEST FOR PROPOSALS & CONTRACT APPROACH

RFP'S ENSURES FAIR MARKET PRICING IS OBTAINED (6 PROPOSALS)

ONE RFP & CONTRACT PROCESS COVERING ≈ 39 MAJOR PROJECTS (5 YEARS)

TWO MULTI-YEAR UNIT PRICE CONTRACTS AWARDED

MULTIPLE YEAR WORK VOLUME = REDUCED CONTRACTOR COST

AMORATIZATION OF CONTRACTOR'S INVESTMENT COSTS

RETENTION OF QUALIFIED RESOURCES

WORK PRACTICES OPTIMIZED

PARTNERSHIP

COMMUNICATION PLAN & CUSTOMER CARE

PRE-CONSTRUCTION PHASE

INTERNAL
COORDINATION

MUNICIPAL ROAD PROJECT
COORDINATION

PERMIT
COORDINATION

TOWN HALL
MEETINGS

CONSTRUCTION PHASE

CUSTOMER
LETTERS

EVP
CALLS

PERSONAL
CONTACT

RE-LIGHT
APPLIANCE

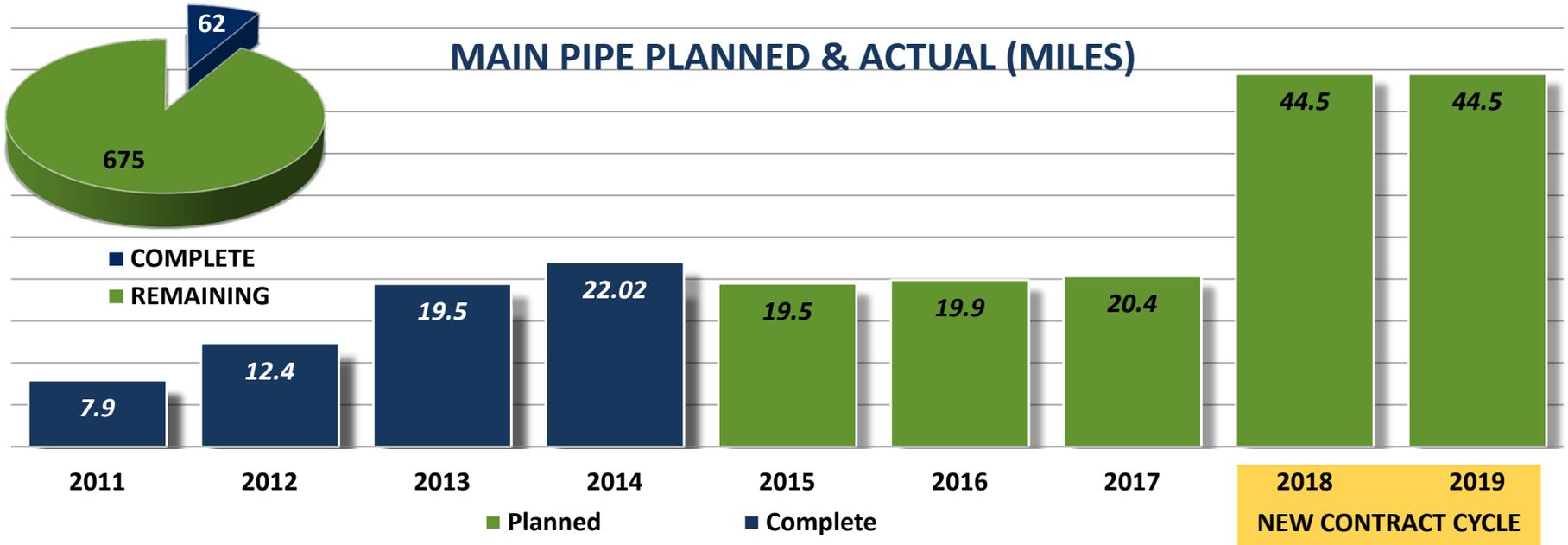
DOOR
HANGERS

WEB SITE

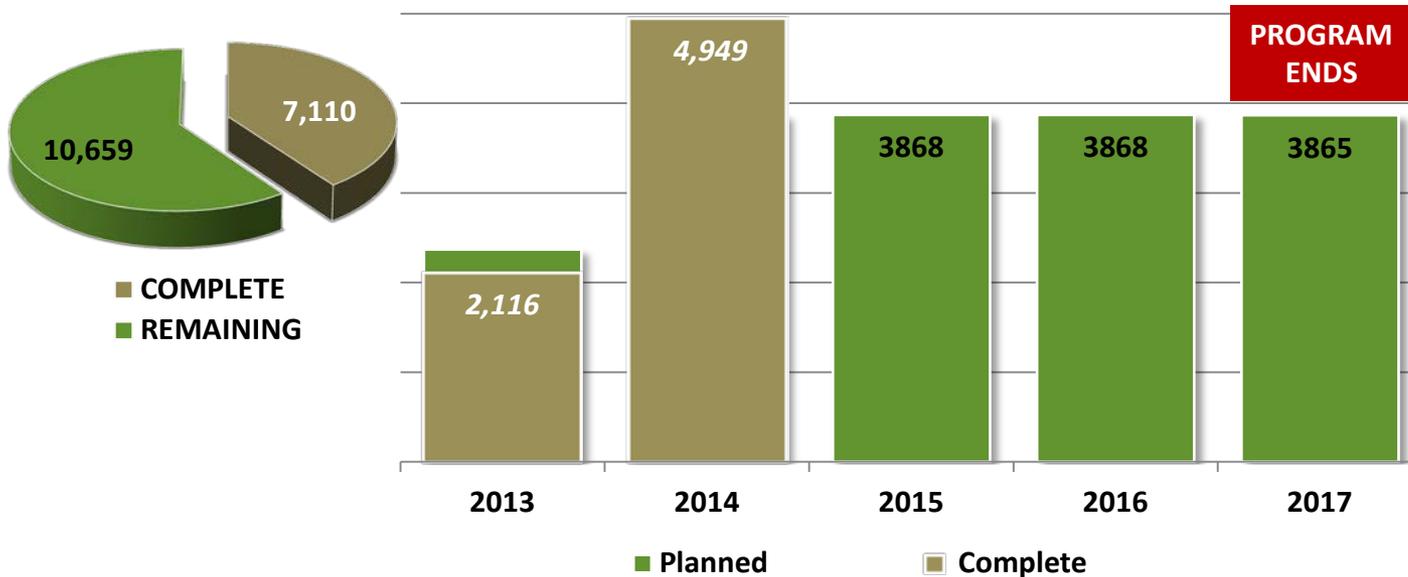


PROGRAM WIDE RESULTS

MAIN PIPE PLANNED & ACTUAL (MILES)



SERVICE TEE TRANSITIONS REBUILDS PLANNED & ACTUAL (UNITS)

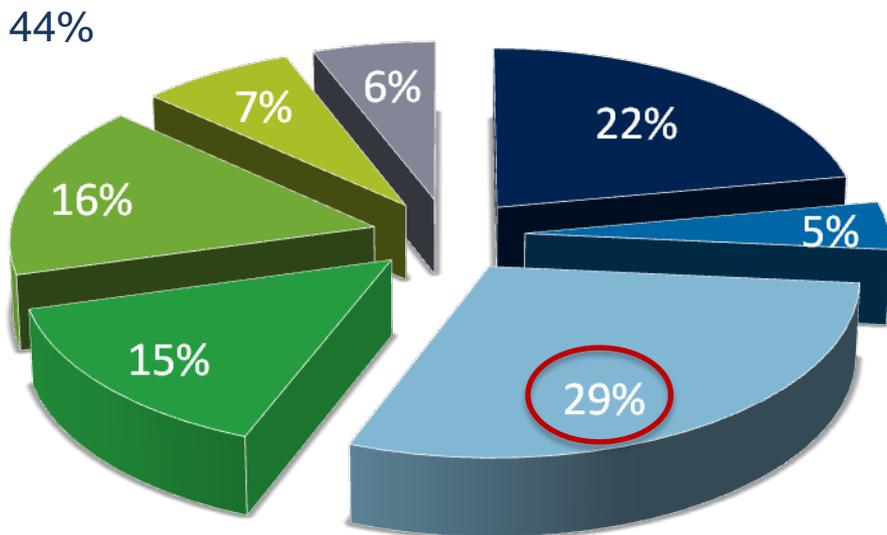


PART 2 – CONSTRUCTION & LESSONS LEARNED

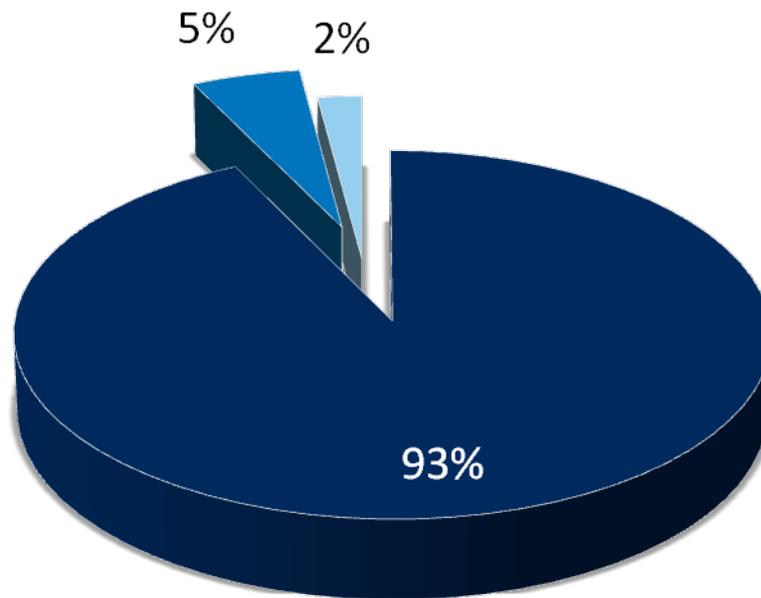


REPLACEMENT vs. NEW CONSTRUCTION

MAIN PIPE REPLACEMENT



NEW MAIN CONSTRUCTION



- 56% TRENCH/INSTALL/BACKFILL MAIN PIPE
- TIE-IN TO EXISTING SYSTEM
- ROAD RESTORATION

- 100% TRENCH/INSTALL/BACKFILL MAIN PIPE
- TIE-IN TO EXISTING SYSTEM
- ROAD RESTORATION

- 44% TRAFFIC CONTROL
- SERVICE TIE-OVERS & RELIGHTS
- ABANDON PIPE
- METER WORK

EMPLOYING TRENCHLESS TECHNOLOGY

KEYHOLE TECHNOLOGY



HORIZONTAL DIRECTIONAL DRILLING



SPLIT & PULL



CITY OF SPOKANE SEWER CARDS

- CITY OF SPOKANE SEWER CARDS ARE AVAILABLE ON THEIR WEBSITE AS PUBLIC RECORD. THIS MAKES ACQUIRING THEM A MUCH EASIER PROCESS



Welcome to City of Spokane
Wastewater Management

Sewer Maintenance
909 East Sprague Avenue 99202
Phone:(509) 625-7900
Fax:(509) 625-7940

Riverside Park Water Reclamation Facility
4401 N. A.L. White Parkway 99205
Phone:(509) 625-4600
Fax:(509) 625-4605



Home
Integrated Plan
CSO Reduction
Collection System
Reclamation Facility
Stormwater Management
Rates
Contacts
Side Sewer Finder
GIS Data
News Items

Side Sewer Search **BETA**

Permit #:

Inspected Date:

Results per page: 20

Address Information

House Number:

Street Direction:

Street Name:

Street Type:

No Results Returned!

Helpful [tips](#) for understanding the side sewer cards

TO PRINT CARDS: Right click on each card image and save to your PC. Once saved use your operating system's image printing functionality. We do not currently offer a printer friendly version of the images. Sorry for the inconvenience.

<http://www.spokanewastewater.org/disclaimer.aspx>

CITY OF SPOKANE SEWER CARD (FRONT)

Form No. 252

East 3723 - 18th Avenue

PROFILE NO.
8089

No 50466 A

CITY OF SPOKANE SIDE SEWER PERMIT

ISSUED BY AT
Plumber or
Contractor

Owner _____
Lot 2 Block 11 Addition Pinecroft Terrace
No. East 3723 - 18th Avenue Width of Street 60 ft.
Location of "Y" 215.9 ft. east of manhole in block

Funk Avenue Sewer Full Conn.

Enters Property 224.9 ft. E of manhole in block

Depth at Property Line 3.0 ft. At Building _____ ft.

Size of Pipe in Street 4 in tile in. On Property 4 in Obdg. & C.I. in.

Class of Building Residence

Date of Permit April 20 19 60 Date of Inspection 4-20 19 60

~~Remarks~~ Connects Cess. Pipe 33.5 ft N & 12.6 ft E of nw corner

Remarks of bldg, Depth 3.0 Crassed Cesspool with Cast Iron

Work by _____

I hereby certify that I have inspected this connection and that it conforms to all the requirements governing such work. I further certify that the back-filling has been properly done and that the street is left in good condition.

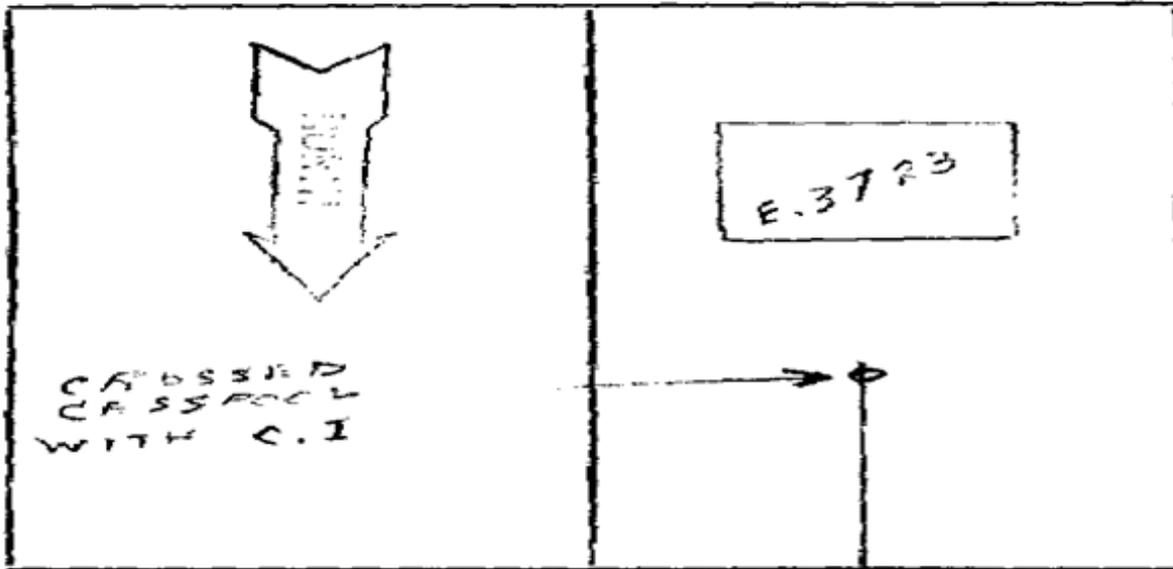
Supt. of Sewers

J. H. Manier
Inspector

CITY OF SPOKANE SEWER CARDS (BACK)

STREET E. 3723 - 18TH AVE.

SEWER _____



ALLEY _____

FUNK AVE SEWER

CITY OF SPOKANE SEWER CARD (FRONT)

W. 5411 Russett Dr.		No	70700 A
PROFILE NO. RUSS(1) 15-26-42	CITY OF SPOKANE		ISSUED BY _____
SIDE SEWER PERMIT		Plumber or Contractor	
Owner _____			
Lot 2	Block 3	Addition Meadow Glen First	
No. W. 5411 Russett Dr.		Width of Street 60'	
Location of "Y" 60' east of MH in Halsey St.			
Russett Dr. Sewer		P/L to bldg.	
Enters Property 60' ft east of MH in Halsey St.			
Depth at Property Line 11'		ft. At Building 4.0' ft.	
Size of Pipe in Street 4" pvc		in. On Property 4" pvc in.	
Class of Building residence			
Date of Permit Feb. 27 1986		Date of Inspection Feb. 28 1986	
Enters Building Connects to Existing Pipe 7.5' east of northwest corner of building.			
Remarks _____			
Work by: _____			
I hereby certify that I have inspected this connection and that it conforms to all the requirements governing such work. I further certify that the back-filling has been properly done and that the street is left in good condition.			
_____ Supt. of Sewers		_____ Inspector	
Form No. 252 Rev. 7-83			

A



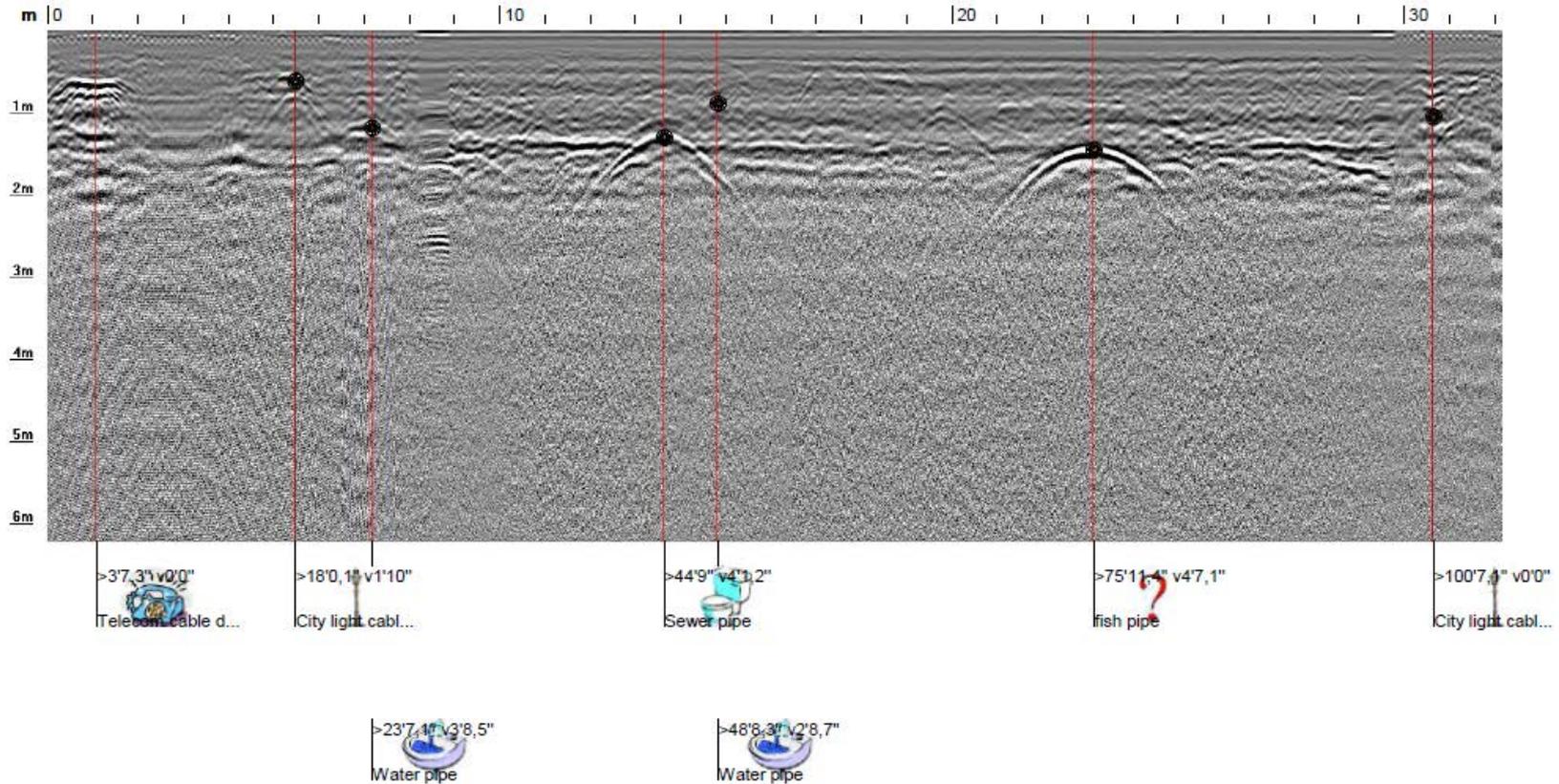
GROUND PENETRATING RADAR (GPR)



GROUND PENETRATING RADAR (GPR) RESULTS

Acquisition: X-4 Scan: 1
Date: Thursday 28 June 2012
Page: 1

Prescan note: Prescan note not present



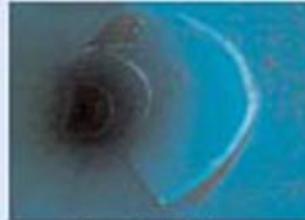
PIPE INSPECTION EQUIPMENT



Badly Damaged Pipe



Crushed Pipe



Broken Pipe



Punctured Pipe



Offset Joint



Tree Roots

LESSONS LEARNED

- ❑ HEAVY ROAD RESTORATION - 2' - 8' WIDE RE-PAVE FOR 18"- 24" TRENCHLINE
- ❑ 100% IMPORT / EXPORT REQUIRED BY MUNICIPAL ROADS DEPARTMENTS
- ❑ UTILITY LOCATE VOLUME OVERWHELMS SMALL MUNICIPALITIES
- ❑ LACK OF INTERNAL COORDINATION/COMMUNICATION WITHIN MUNICIPAL ORGANIZATIONS
- ❑ HOME OWNERS ASSOCIATIONS (HOA) – PRIVATELY OWNED & NOT A PART OF ONE-CALL SYSTEM
- ❑ INEXPERIENCED (GREEN) WORK FORCE – WORKFORCE TRAINING PROGRAMS NEEDED
- ❑ SUB-SURFACE CONDITION CHALLENGES (CLAY/COBBLE/SOLID ROCK)
- ❑ EMPLOYING KEYHOLE IN COMBINATION WITH HDD FOR UTILITY SPOTTING & TIE OVERS
- ❑ INSPECTION IN THE FIELD HELP CONTROL QUALITY & COSTS
- ❑ SERVICE TECH'S PERFORMING METER WORK & CUSTOMER RE-LIGHTS DRIVE THE WORK PACE
- ❑ PHASE CONTROL IS CRUCIAL FOR CUSTOMER CARE
- ❑ WEATHER & SEASONAL WORK = STAFFING CHALLENGES PARTICULARLY SERVICE TECHS

Q & A

