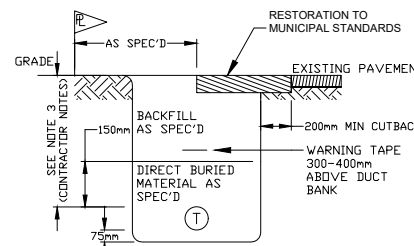
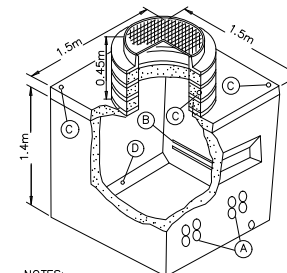




**LOCATION MAP**



**TYPICAL TRENCH BACKFILL DETAILS**  
N.T.S.



- NOTES:  
1. GROUT ALL JOINTS, DUCTS, AND DRAIN ENTRANCES.  
2. VAULT TO BE SET ON 150mm OF -20mm MULCH OR SAND, IN WET CONDITIONS 150mm DRAIN ROCK.  
3. C/W UNISTRUT INSTALLED  
4. ADD CONCRETE EXTENSION RINGS AS REQ'D.  
A. 4-100mm TERMINATORS  
B. 41mm x 22mm UNISTRUT  
C. 19mm LIFTING INSERT (4) TOP & BASE  
D. 25mm PULLING INSERT (2) EACH SIDE

**1.5x1.5 MH DETAIL**  
N.T.S.

**DISCLAIMER:**

- THE DRAWING IS PROJECT SPECIFIC AND PROPERTY OF TELUS, THE DRAWING SHALL NOT BE USED WITHOUT THE CONSENT OF TELUS.
- LTS DOES NOT ASSUME RESPONSIBILITY FOR THE ACCURACY OF THE CONTENTS WHETHER SHOWN OR OMITTED FROM THIS DRAWING BEYOND THE REQUIREMENTS LISTED IN APPROVING AUTHORITY REQUIREMENTS.
- THIS DRAWING SHALL BE USED IN CONJUNCTION WITH IFC DRAWINGS. CONSTRUCTION SHALL VERIFY COMPLETENESS OF ALL POWER UTILITY AND TELUS MAKE READY BEFORE LASHING NEW CABLES.

**CONSTRUCTION NOTES:**

- ALL WORKMANSHIP MUST BE IN ACCORDANCE WITH THE APPLICABLE EDITION OF THE TELUS OUTSIDE PLANT PRACTICE & STANDARDS (TOPPS).
- ALL STRANDS TO CONFORM TO CSA GRADE 1300.
- ALL STRANDS INSTALLED MUST BE SIZE 8 (8.4MM DIAMETER) UNLESS NOTED.
- ALL DOWN GUYS INSTALLED MUST BE SIZE 10 (10.7MM DIAMETER) W/ JOHNNY BALL STRAIN INSULATOR UNLESS NOTED.
- ALL ANCHORS INSTALLED MUST BE 25MM (1 IN) ROD, 0.25 SQ-M (400 SQ IN) CROSS-PLATE WITH MINIMUM SHAFT CAPACITY OF 160 KN (36M) UNLESS NOTED.
- FOR SINGLE GUY ATTACHMENTS ONLY, CROSS-PLATE ANCHORS MAY BE SUBSTITUTED WITH PISA 25MM (1 IN) ROD, (10 IN) DOUBLE HELIX ANCHOR WITH MINIMUM SHAFT CAPACITY OF 138 KN (31 M).
- YELLOW DOWNHAUL GUARDS SHALL BE INSTALLED AS PER TOPPS 1.1.1.11, JUB024.
- POLE LINE EXTENSION BOLT STRAP TO CONFORM TO TOPPS 1.1.2.4.5
- ATTACHING GUYS (POLE AND RODS) TO CONFORM TO TOPPS 1.1.1.4

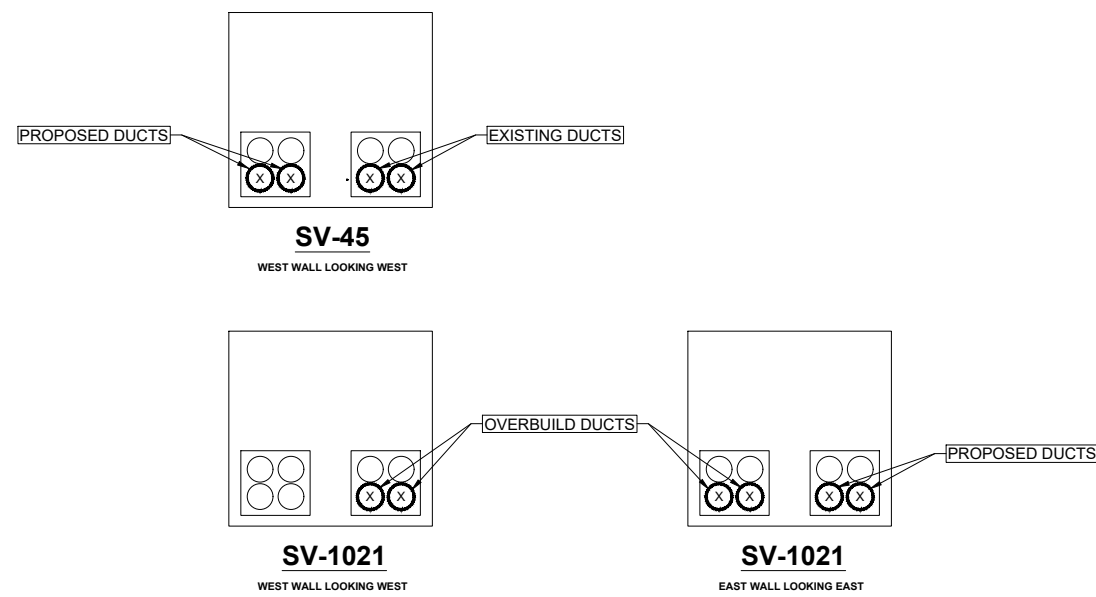
**LEGEND**

- PROPOSED SERVICE BOX / FDH
- PROPOSED MANHOLE
- PROPOSED SERVICE VAULT
- PROPOSED PEDESTAL
- PROPOSED CONDUIT (OPEN TRENCH)
- PROPOSED CONDUIT (DIRECTIONAL DRILL)
- PROPOSED DROP CONDUIT
- WATER MAIN
- SEWER MAIN
- SANITARY MAIN
- STORM MAIN
- GAS MAIN
- TEL DUCTS
- CATV DUCTS
- POWER DUCTS
- PIPELINE
- STREETLIGHT
- ABANDONED UTILITY
- EDGE OF PAVEMENT
- BACK OF CURB
- POLE (W/ ANCHOR)

**CONSTRUCTION NOTES**

- ELEVATIONS REFER TO \_\_\_\_\_ DATUM.
- CONDUIT GRADE ON PROFILE IS APPROXIMATE ONLY. FINISHED GRADE WILL BE SUBJECT TO LOCATION OF EXISTING UNDERGROUND UTILITIES.
- MINIMUM COVER CONDUIT **1.5m** ALL SECTIONS EXCEPT WHERE OTHERWISE NOTED. MANHOLE ROOF **0.46m**
- ALL DUCTS TO BE 100mm P.V.C. DB II (ORANGE) UNLESS OTHERWISE NOTED.
- ALL MANUFACTURED BENDS TO BE **0.91m** RADIUS UNLESS OTHERWISE NOTED.
- ALL CONCRETE PILASTERS TO BE **0.30m** ABOVE GRADE UNLESS OTHERWISE NOTED.
- CONTRACTOR IS TO PROVE THE LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES AND SERVICES AFFECTED BY CONSTRUCTION BY M-SCOPE, HAND EXCAVATION OR BC ONE CALL.
- FOR CABLE TROUBLE OR REPAIR INFORMATION, CONTACT TELUS AT 611.
- TEMPORARY/PERMANENT RESTORATION IN ALL PAVED/SIDEWALK AREAS TO BE DONE IN ACCORDANCE WITH ALL APPROVING AUTHORITIES SPECIFICATIONS AND APPROVAL.
- PERMANENT SIDEWALK AND CURB REPAIRS TO BE DONE BY **CONTRACTOR**. PERMANENT ROAD REPAIRS TO BE DONE BY **CONTRACTOR**.
- PERMANENT BOULEVARD RESTORATION TO BE DONE BY CONTRACTOR.
- ALL LANDSCAPE RESTORATION IN LAWN BOULEVARDS MUST BE DONE BY USING SUITABLE GRASS SOD.
- CONTRACTOR TO CONTACT THE APPROPRIATE GAS COMPANY RECORDS DEPARTMENT 24 HOURS PRIOR TO STARTING WORK.
- CONTRACTOR TO CONTACT THE CITY/MUNICIPAL WORKS INSPECTOR 48 HOURS PRIOR TO STARTING WORK.
- CONTRACTOR TO CALL BC ONE CALL (FOR BC) OR AB ONE CALL (FOR ALBERTA) 48 HOURS PRIOR TO DIGGING.
- ALL BACKFILL MATERIAL AND COMPACTION TO BE IN ACCORDANCE WITH ALL APPROVING AUTHORITIES SPECIFICATIONS.
- ALL DIRECT BURIED SYSTEMS 2-WAY AND LARGER TO BE BUNDLED AND STRAPPED.
- TELUS CONTRACTOR TO SUPPLY AND PLACE AN ENCLOSED PLYWOOD BOX OVER SAC PAD DUCTS AND SECURED TO FRAME.
- BREAK OUT EXISTING CONCRETE ENCASED DUCTS: ANY JACK-HAMMERING OR USE OF POWER TOOLS TO BE CARRIED OUT BY CONTRACTOR. ALL HAND STRIPPING OF DUCTS, BREAKING OF DUCTS AND/OR HANDLING OF CABLES TO BE DONE BY TELUS FORCES.
- EXISTING CONDUIT TO BE RELOCATED IF REQUIRED TO ENSURE SPECIFIED ENTRANCE LOCATIONS INTO MANHOLE/VAULT. CONTRACTOR TO PROVIDE EXCAVATION, BACK-FILLING AND RESTORATION IF RELOCATION BECOMES NECESSARY.
- ORANGE TELUS MARKER TAPE TO BE PLACED ON CENTERLINE OF DUCT BANK @ 300mm BELOW FINAL GRADE.
- CONTACT TELUS 10 DAYS BEFORE PROJECT START TO ARRANGE PICKUP LOCATION OF TELUS SUPPLIED MATERIAL. BC: KATHY MIDWOOD (Kathy.Midwood@Telus.com) at 604-453-2037
- SUBGRADE & DIRECT BURIED MATERIAL WHERE APPLICABLE SHALL BE 20mm MINUS CRUSHED AGGREGATE.
- BACKFILL MATERIAL SHALL BE:  
IN ROADWAYS/TRAVELLED AREAS **20mm MINUS**  
IN SIDEWALK/TRAVELLED AREAS **20mm MINUS**  
IN BOULEVARD/UNTRAVELLED AREAS **20mm MINUS**
- CONTRACTOR TO PULL IN A TELUS SUPPLIED MEASURING TAPE THRU ONE DUCT IN EACH RUN AFTER MANDRELLING, LOCATION TO BE DETERMINED BY TELUS.
- MINIMUM SEPARATION FROM ALL UTILITIES TO BE 300mm.
- ALL DIMENSIONS IN mm UNLESS OTHERWISE NOTED

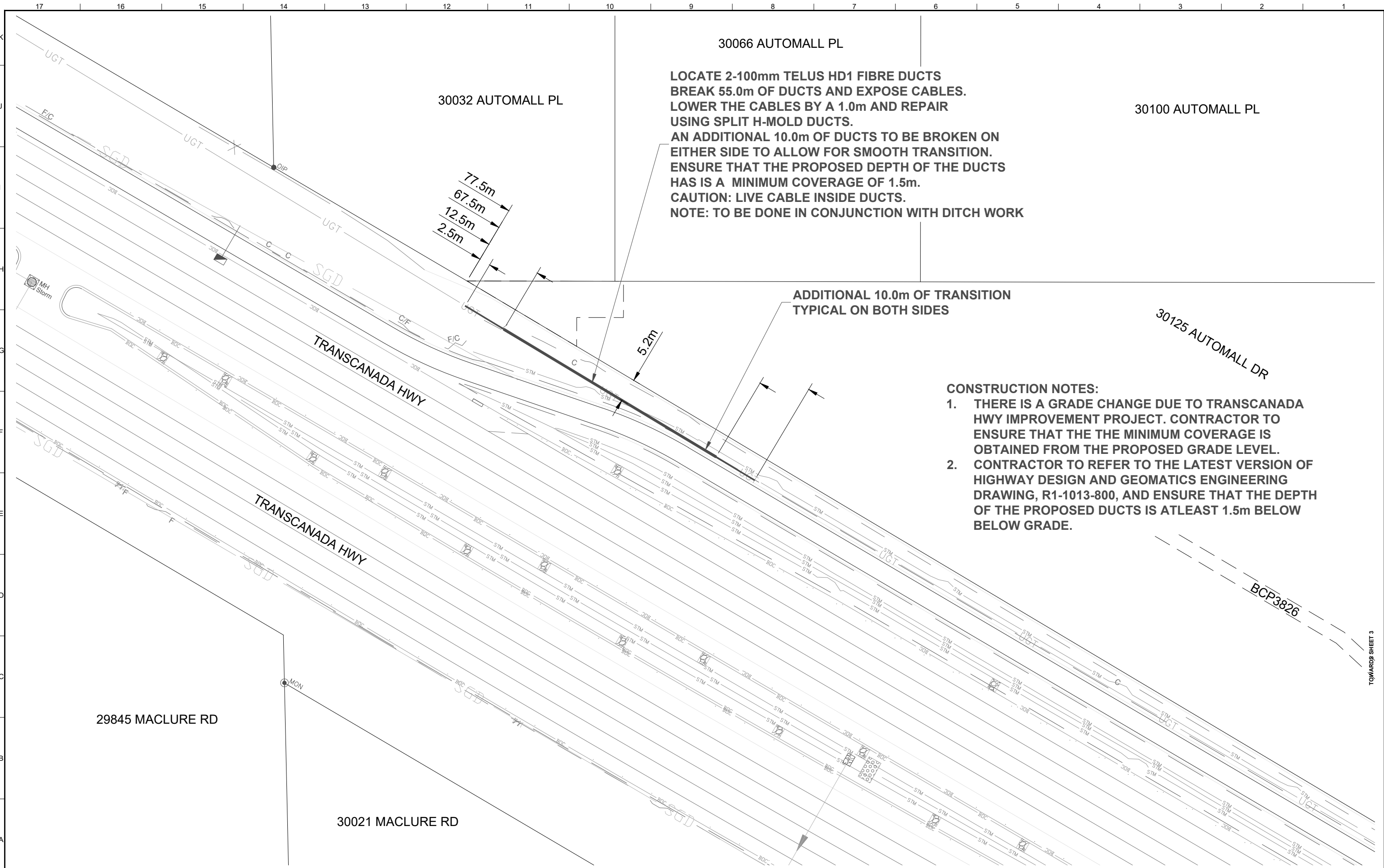
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GENERAL NOTES		REFERENCE DRAWINGS		REVISIONS			BC ONE CALL	
ALL HYDROVAC SLURRY MUST BE PROPERLY DISPOSED AT A PROVINCIALLY APPROVED FACILITY. RECORD KEEPING, INCLUDING THE HYDROVAC OPERATOR NAME, DATE, LOCATION WHERE THE MATERIAL WAS EXTRACTED AND DISPOSED AND AMOUNT AND CONTENT OF SLURRY, MUST BE MAINTAINED AND MADE AVAILABLE ON REQUEST.		DRAWING #	TITLE	REV	DATE	DESCRIPTION	DES	CHK
		R1-1013-800	HWY DESIGN AND GEOMATICS ENGINEERING	0	2022-02-13	ISSUED FOR CONSTRUCTION	ER	JB
				1	2024-04-16	DUCT LOWERING LENGTH INCREASED TO 55M	ER	JB
				2	2024-05-21	ALIGNMENT CHANGE	ER	JB

CONTACT INFORMATION		
TELUS DESIGN SPECIALIST	SITE CONTACT	
JASON NG 236-989-7065 JASON.NG2@TELUS.COM	JACK CHEN JACK.CHEN@GOV.BC.CA 250-889-1638	
DESIGNER	SENIOR DESIGNER	
EZEKIEL RAI 775-945-3384 EZEKIEL.RAI@LEDCOR.COM	JOHN BARRON 604-699-2619 JOHN.BARRON@LEDCOR.COM	
PREPARED FOR	PREPARED BY	IN PARTNERSHIP WITH
TELUS	LEDCOR	

BC GROWTH AND SUSTAINMENT				
PERMIT DESIGN FOR THE DUCT RELOCATION/REBUILD HWY 1 WEST OF MT. LEHMAN RD. CITY OF ABBOTSFORD MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE				
N.T.S.				
DRAWING #	2918290_U	JIRA ID	GS-111039	SHEET: 1
PROJECT #	P-2023290.01	COID	FTLY	TOTAL SHEETS: 3
				REVISION: 2



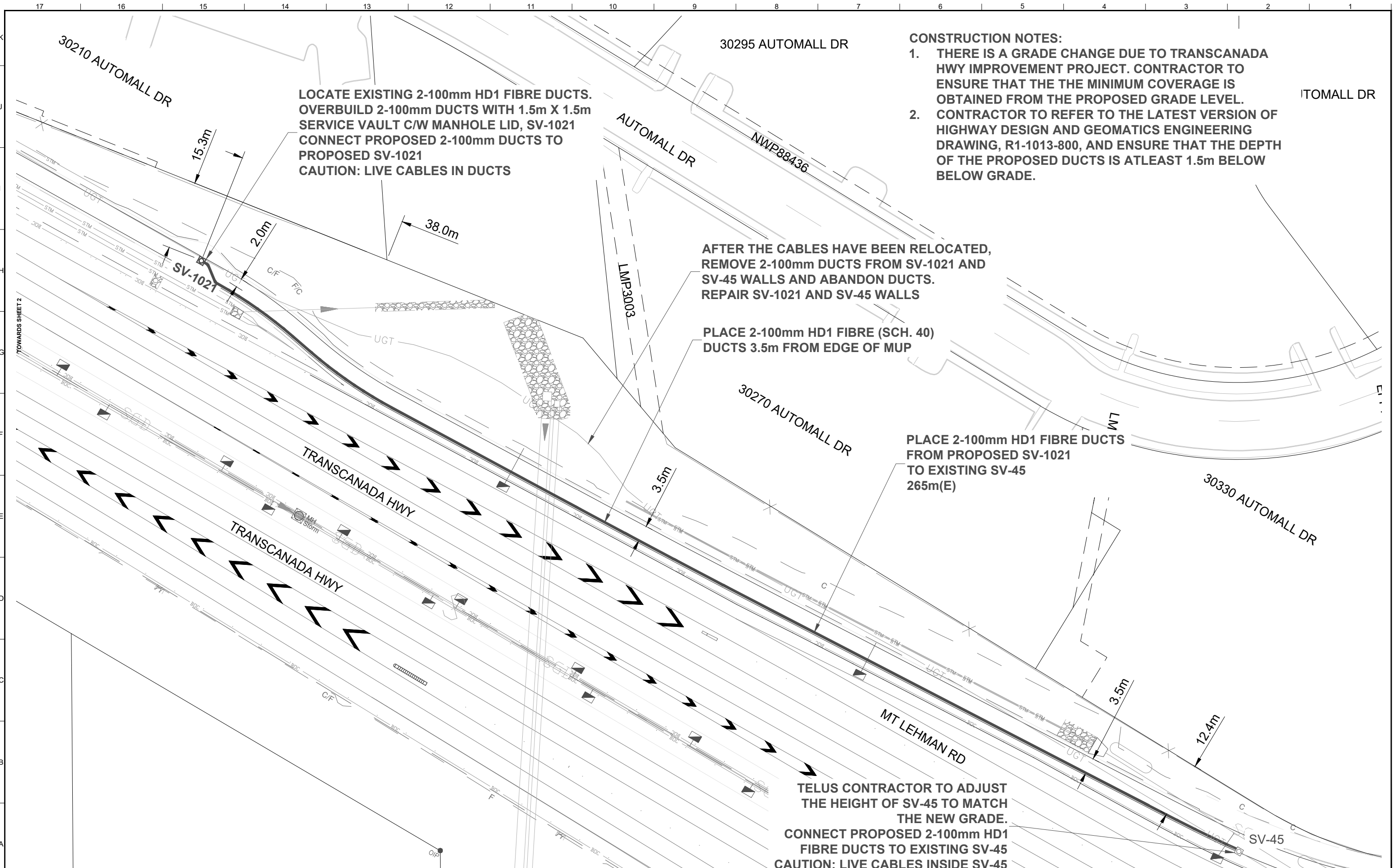
**LOCATE 2-100mm TELUS HD1 FIBRE DUCTS  
BREAK 55.0m OF DUCTS AND EXPOSE CABLES.  
LOWER THE CABLES BY A 1.0m AND REPAIR  
USING SPLIT H-MOLD DUCTS.  
AN ADDITIONAL 10.0m OF DUCTS TO BE BROKEN ON  
EITHER SIDE TO ALLOW FOR SMOOTH TRANSITION.  
ENSURE THAT THE PROPOSED DEPTH OF THE DUCTS  
HAS IS A MINIMUM COVERAGE OF 1.5m.  
CAUTION: LIVE CABLE INSIDE DUCTS.  
NOTE: TO BE DONE IN CONJUNCTION WITH DITCH WORK**

**ADDITIONAL 10.0m OF TRANSITION  
TYPICAL ON BOTH SIDES**

- CONSTRUCTION NOTES:**
1. THERE IS A GRADE CHANGE DUE TO TRANSCANADA HWY IMPROVEMENT PROJECT. CONTRACTOR TO ENSURE THAT THE THE MINIMUM COVERAGE IS OBTAINED FROM THE PROPOSED GRADE LEVEL.
  2. CONTRACTOR TO REFER TO THE LATEST VERSION OF HIGHWAY DESIGN AND GEOMATICS ENGINEERING DRAWING, R1-1013-800, AND ENSURE THAT THE DEPTH OF THE PROPOSED DUCTS IS ATLEAST 1.5m BELOW GRADE.

	<b>GENERAL NOTES</b>		<b>REFERENCE DRAWINGS</b>		<b>REVISIONS</b>			<b>CONTACT INFORMATION</b>		<b>BC GROWTH AND SUSTAINMENT</b>		
	ALL HYDROVAC SLURRY MUST BE PROPERLY DISPOSED AT A PROVINCIALLY APPROVED FACILITY. RECORD KEEPING, INCLUDING THE HYDROVAC OPERATOR NAME, DATE, LOCATION WHERE THE MATERIAL WAS EXTRACTED AND DISPOSED AND AMOUNT AND CONTENT OF SLURRY, MUST BE MAINTAINED AND MADE AVAILABLE ON REQUEST.		DRAWING # R1-1013-800	TITLE HWY DESIGN AND GEOMATICS ENGINEERING	REV 0 1 2	DATE 2022-02-13 2024-04-16 2024-05-21	DESCRIPTION ISSUED FOR CONSTRUCTION DUCT LOWERING LENGTH INCREASED TO 55M ALIGNMENT CHANGE	DES ER ER ER	CHK JB JB JB	TELUS DESIGN SPECIALIST JASON NG 236-989-7065 JASON.NG2@TELUS.COM	SITE CONTACT JACK CHEN JACK.CHEN@GOV.BC.CA 250-889-1638	PERMIT DESIGN FOR THE DUCT RELOCATION/REBUILD HWY 1 WEST OF MT. LEHMAN RD, CITY OF ABBOTSFORD MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE
CALL BEFORE YOU DIG 1-800-464-8888 OR BY CELLULAR 6886 VANCOUVER AREA 257-1940		CALL AT LEAST 2 FULL DAYS BEFORE YOU PLAN TO DIG		CONSTRUCTION NOTE: ALL EXISTING UTILITIES TO BE LOCATED PRIOR TO CONSTRUCTION CONTACT LTS ENGINEERING FOR CHANGES TO THE APPROVED DRAWING. (LTS@TELUSBAUDESIGN@LEDCOR.COM)		PREPARED FOR TELUS	PREPARED BY LEDCOR	IN PARTNERSHIP WITH	1:1000 (m) 0 10 20 30 40	DRAWING # 2918290_U PROJECT # P-2023290.01	JIRA ID GS-111039 COID FTLY	SHEET: 2 TOTAL SHEETS: 3 DATE: 2024-05-21 REVISION: 2

THE WORKS PROPOSED ON THIS DRAWING SHALL AT ALL TIMES REMAIN THE PROPERTY OF TELUS. ALL CONSTRUCTION, INSTALLATION AND TESTING TO BE PERFORMED IN ACCORDANCE WITH RELEVANT TELUS OUTSIDE PLANT STANDARDS AND PRACTICES IN EFFECT ON DATE OF STATEMENT OF WORK OR AGREED TO THEREAFTER.



**CONSTRUCTION NOTES:**

1. THERE IS A GRADE CHANGE DUE TO TRANSCANADA HWY IMPROVEMENT PROJECT. CONTRACTOR TO ENSURE THAT THE THE MINIMUM COVERAGE IS OBTAINED FROM THE PROPOSED GRADE LEVEL.
2. CONTRACTOR TO REFER TO THE LATEST VERSION OF HIGHWAY DESIGN AND GEOMATICS ENGINEERING DRAWING, R1-1013-800, AND ENSURE THAT THE DEPTH OF THE PROPOSED DUCTS IS ATLEAST 1.5m BELOW BELOW GRADE.

**GENERAL NOTES**

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DRAWING #	TITLE	REV	DATE	DESCRIPTION	DES	CHK
R1-1013-800	HWY DESIGN AND GEOMATICS ENGINEERING	0	2022-02-13	ISSUED FOR CONSTRUCTION	ER	JB
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**BC ONE CALL**

CALL BEFORE YOU DIG 1-800-464-8888 OR BY CELLULAR 6886 VANCOUVER AREA 257-1940

CALL AT LEAST 2 FULL DAYS BEFORE YOU PLAN TO DIG

**CONSTRUCTION NOTE:**

- ALL EXISTING UTILITIES TO BE LOCATED PRIOR TO CONSTRUCTION
- CONTACT LITS ENGINEERING FOR CHANGES TO THE APPROVED DRAWING. (LITSTELUSBADESIGN@LEDCOR.COM)

CONTACT INFORMATION	
<b>TELUS DESIGN SPECIALIST</b>	<b>SITE CONTACT</b>
JASON NG 236-989-7065 JASON.NG2@TELUS.COM	JACK CHEN JACK.CHEN@GOV.BC.CA 250-889-1638
<b>DESIGNER</b>	<b>SENIOR DESIGNER</b>
EZEKIEL RAI 178-845-3384 EZEKIEL.RAI@LEDCOR.COM	JOHN BARRON 604-699-2649 JOHN.BARRON@LEDCOR.COM
<b>PREPARED FOR</b>	<b>PREPARED BY</b>
TELUS	LEDCOR
<b>IN PARTNERSHIP WITH</b>	

BC GROWTH AND SUSTAINMENT				
PERMIT DESIGN FOR THE DUCT RELOCATION/REBUILD HWY 1 WEST OF MT. LEHMAN RD, CITY OF ABBOTSFORD MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE				
1:1000 (m)				
0 10 20 30 40				
DRAWING #	2918290_U	JIRA ID	GS-111039	SHEET: 3
PROJECT #	P-2023290.01	COID	FTLY	TOTAL SHEETS: 3
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