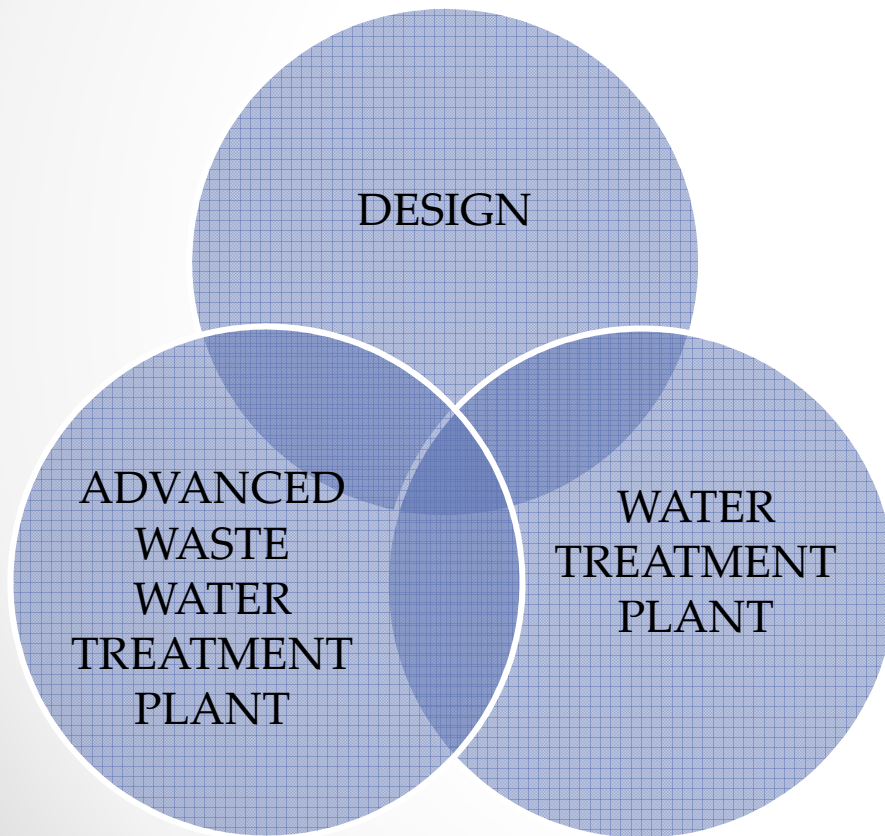




ENGINEERING DEPARTMENT


Presented by:
Ian Chapman
City Engineer

ENGINEERING BUDGET OVERVIEW






- THREE AREAS; DESIGN, AWWTP and WTP
- OPERATING AND CAPITAL BUDGET FOR EACH
- DESIGN – OPERATING BUDGET
- AWWTP AND WTP OPERATING BUDGET.
- AWWTP AND WTP CAPITAL BUDGET.
- DESIGN CAPITAL BUDGET.

WTP: 2012 CAPITAL BUDGET ASSET MANAGEMENT

PROJECT	ESTIMATE D COST	FUNDING	PRIORITY	
<p>WATER TREATMENT PLANT OPTIMIZATION</p> <p>ADVANCE PROCESS REVIEW AND EQUIPMENT UPGRADES THAT WILL OPTIMIZE THE FUNCTIONALITY OF THE WATER TREATMENT PLANT ..</p> <p>2012 PROJECTS ARE:</p> <p>INSTALL SCADA EQUIPMENT AT NARAMATA ROAD PUMP STATION</p> <p>UPGRADE WASHDOWN PIPING</p> <p>INSTALL RADIO COMMUNICATION AT EVERGREEN RESERVOIR</p> <p>UPGRADE SCADA PROGRAMMING AT THE PLANT, RESERVOIRS AND PUMP STATIONS.</p>	\$40,000	WATER UTILITY	MEDIUM	
<p>WATER TREATMENT PLANT BACKWASH PUMP #3</p> <p>COMPLETE INSTALLATION OF BACKWASH PUMP #3 TO PROVIDE ESSENTIAL REDUNDANCY IN THE EVENT OF FAILURE OF EXISTING PUMP.</p>	\$100,000	CARRY FORWARD	HIGH	
<p>WATERSHED PROTECTION PLAN</p> <p>COMPLETE WATERSHED ASSESSMENT AND PROTECTION PLAN AS MANDATED UNDER THE WATER ACT. INVOLVES DETAILED REVIEW OF ALL ACTIVITIES WITHIN OUR WATERSHED, THE RISK THEY POSE TO OUR WATER SUPPLY AND IDENTIFYING MEASURES NEEDED TO MITIGATE THE IDENTIFIED RISKS.</p>	\$60,000	CARRY FORWARD /PARTIAL GRANT POSSIBLE	HIGH	

AWWTP: 2012 CAPITAL BUDGET ASSET MANAGEMENT

PROJECT	ESTIMATED COST	FUNDING	PRIORITY	
WASTE WATER TREATMENT PLANT EQUIPMENT REPLACEMENT	\$690,000	SEWER UTILITY	HIGH	 <p>ADDRESS UNRELIABLE COMPONENTS AT THE PLANT. 2012 PROJECTS ARE: FERMENTER STRUCTURE DEGRADATION – CONCRETE TANK IS FAILING. ESTIMATE IS TO ASSESS EXTENT, IDENTIFY OPTIONS AND PROCEED WITH REMEDIAL WORK. \$550,000 REBUILD 9 BIO-REACTOR GEAR BOXES \$22,000 ELECTRICAL REPAIRS \$30,250 REBUILD SCREW PUMP \$44,000 SOFTWARE UPGRADES \$13,750 DIGESTER ASSESSMENT \$30,000</p>
 				
WASTE WATER LIFT STATION EQUIPMENT	\$25,000	SEWER UTILITY	HIGH	<p>ADDRESS UNRELIABLE ELECTRICAL AND MECHANICAL COMPONENTS AT WASTEWATER LIFT STATIONS. 2012 PROJECTS: REPLACE 200CFM FAN AT LEE AVENUE LIFT STATION TO ADDRESS ODOUR COMPLAINTS. \$12,500 UNDERTAKE REVIEW OF ALL FOUR SMALL LIFT STATIONS – AIRPORT LFT STATION, YACHT CLUB LIFT STATION AND TWO SKAHA LAKESHORE (EASTSIDE ROAD) LIFT STATIONS. THESE ARE MORE THAN 20 YEARS OLD AND ARE SHOWING SIGNS OF FAILURE. \$12,500</p>

2012 ENGINEERING CAPITAL BUDGET WTP & AWWTP SUMMARY

	HIGH PRIORITY
WATER UTILITY - WATER TREATMENT PLANT	\$40,000 \$160,000 CF
SEWER UTILITY – AWWTP EQUIPMENT	\$715,000




ENGINEERING: DESIGN CAPITAL BUDGET

- CAPITAL BUDGET ADDRESSES ITEMS THAT NEED TO BE DESIGNED AND CONSTRUCTED.
- INCLUDES SALARY & WAGES FROM OPERATING BUDGET.
- DOES NOT INCLUDE DEBT COSTS.
- ITEM SELECTION BASED UPON NEED TO:
 - ADDRESS SAFETY and AVOID/MINIMISE LIABILITY
 - RESPOND TO MASTER PLAN AND ASSET MANAGEMENT REQUIREMENTS
 - RESPOND TO COUNCIL INSTRUCTIONS
 - COMPLETE ITEMS CARRIED FORWARD FROM PREVIOUS YEAR
 - INVEST TO ENCOURAGE DEVELOPMENT / REVENUE GENERATION
- FUNDING SOURCES:
 - GENERAL REVENUE
 - SEWER UTILITY FUND
 - WATER UTILITY FUND
 - OTHER FUNDS: GRANT, DEVELOPMENT COST CHARGES, COST SHARING (L.I.A)

DESIGN: CAPITAL BUDGET PROJECT SELECTION PRINCIPLES

- IDENTIFY FAILING OR UNDERSIZED ASSETS.
 - MASTER PLAN REVIEWS, VISUAL INSPECTION AND FAILURE RECORDS
- MINIMISE IMPACT AND COST BY COMBINING PROJECTS
 - BALANCE NEED TO UPGRADE SURFACE WORKS WITH NEED TO ADDRESS UTILITIES BENEATH (AND VICE VERSA).
- ALLOCATE FUNDS TO DESIGN WORKS IN TIME TO CONSTRUCT THEM.
 - ANTICIPATE REPLACEMENT YEAR AND HAVE DESIGN READY TO IMPLEMENT FOR BEST PRICES AND POTENTIAL GRANT OPPORTUNITIES.
- INVEST FUNDS TO MAINTAIN INFRASTRUCTURE NOW OR DEFER AND SPEND MORE LATER FOR FAILURE COSTS OR INTENSIFIED UPGRADE/REPLACEMENT.
 - OVERLAY A ROAD TO PRESERVE SURFACE OR RISK NEED TO REMOVE AND REBUILD SURFACE.
 - UPGRADE A SECTION OF FAILING WATER OR SEWER PIPE OR RISK CONTAMINATION/LEAKAGE.
- ECONOMY OF SCALE
 - SINGLE LARGE CONTRACT ATTRACTS MORE COMPETITIVE PRICES AND IS LESS COSTLY TO ADMINISTER.

DESIGN: 2012 CAPITAL BUDGET HIGH PRIORITY

PROJECT	ESTIMATED COST	FUNDING	
AGING SANITARY SEWER INFRASTRUCTURE	\$200,000	SEWER UTILITY	
<p>SANITARY SEWERS HAVE A LIMITED LIFE EXPECTANCY BASED ON AGE, MATERIAL, GROUND CONDITIONS, BEDDING AND SEWAGE CHARACTERISTICS. 2012: REPLACE SANITARY SEWER AT QUEENS PARK SCHOOL.</p>			
AGING WATER INFRASTRUCTURE	\$1,200,000	WATER UTILITY	
<p>WATER PIPELINES HAVE A LIMITED LIFE EXPECTANCY BASED ON AGE, MATERIAL, GROUND CONDITIONS, BEDDING , WATER CHEMISTRY AND SYSTEM CHARACTERISTICS. 2012: REPLACE MAINS ON ELLIS STREET \$850,000 AND ROBINSON STREET \$150,000 . CURRENT PLANS TO ALSO ADDRESS THE MAIN ON PERKINS CRESCENT \$200,000 MAY BE REVISED TO ADRESS POSSIBLE REPRIORITISATION ON WATERLOO AVE (DEVELOPMENT) OR KAMLOOPS AVE (FAILURE).</p>			
50mm & 100mm WATER MAIN UPGRADES	\$500,000	WATER UTILITY	
<p>CREATION OF COMPUTERISED MODELLING HAS ENABLED US TO IDENTIFY WHERE FIREFLOWS ARE INSUFFICIENT TO MEET REQUIRED STANDARDS. THERE ARE APPROXIMATELY 16KM OF UNDERSIZED MAINS IN PENTICTON - REPLACEMENT COST IS ESTIMATED TO BE \$13M. COUNCIL HAS ENDORSED (IN PRINCIPLE) INVESTING \$0.5M PER YEAR, PRIORITISED TO DEVELOPMENT AREAS. 2012 PROJECT IS ALEXANDER AVENUE.</p>			

DESIGN: 2012 CAPITAL BUDGET HIGH PRIORITY



PROJECT	ESTIMATED COST	FUNDING	
ROAD REHABILITATION	\$380,000	GENERAL REV	
<p>THE ROAD REHABILITATION PROGRAMME IS BASED UPON A COMBINATION OF RECOMMENDATIONS FROM THE 2006 PAVEMENT MANAGEMENT STUDY AND VISUAL INSPECTION AND DISCUSSIONS WITH PUBLIC WORKS ROAD MAINTENANCE STAFF.</p> <p>A TYPICAL ASSET MANAGEMENT APPROACH APPLIED TO PENTICTON WOULD RESULT IN THE RECOMMENDATION TO INVEST BETWEEN \$1M AND \$2.5m ANNUALLY TO MAINTAIN ROADS IN SERVICABLE CONDITION.</p> <p>FOCUS IS ON HIGH VOLUME COLLECTOR ROADS AND HEAVY TRUCK ROUTES.</p> <p>A SIGNIFICANT AMOUNT OF REHABILITATION IS ACHIEVED BY APPLYING FULL ROAD WIDTH RESTORATION FOLLOWING BURIED UTILITY WORK (RATHER THAN TRENCH PATCHES WHICH DEGRADE MORE RAPIDLY). A FURTHER \$380,000 OF ROAD REHABILITATION WILL BE ACHIEVED IN 2012 BASED ON THIS APPROACH.</p> <p>ROADS SELECTED FOR REHABILITATION IN 2012 ARE: MAIN STREET – WARREN TO INDUSTRIAL MAIN STREET – KINNEY TO BRANDON NARAMATA ROAD – McMILLAN TO RANDOLPH ROAD.</p>			



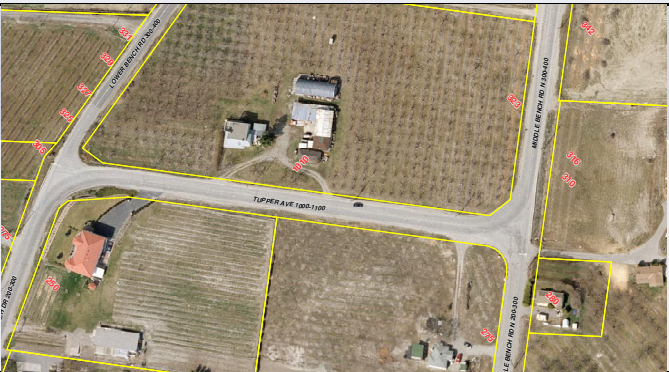
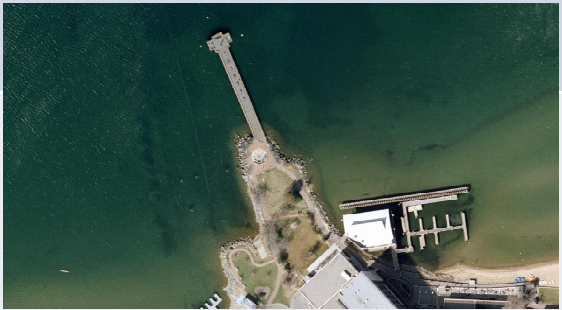
DESIGN: 2012 CAPITAL BUDGET HIGH PRIORITY

PROJECT	ESTIMATED COST	FUNDING	
BIKE NETWORK	\$30,000	GENERAL REV	
UNDERTAKE PUBLIC CONSULTATION AND OBTAIN COUNCIL APPROVAL TO PROCEED WITH IMPLEMENTATION OF BIKE NETWORK PLAN. PROCEED WITH CREATION OF BIKE LANES IF APPROVED COMMENCING WITH WARREN AVENUE AND ELLIS STREET.			
LOCAL IMPROVEMENT AREA STRATEGY	\$28,000	CARRY FORWARD	
DEVELOP POLICY, PROCESS AND UPDATE BYLAW FOR OWNER/CITY COST SHARING OF A PORTION OF PRIMARILY RESIDENTIAL AREA AND LANE REVITALISATION PROJECTS.			
INTERSECTION SIGNALISATION, CROSSWALK AND TRAFFIC CALMING	\$40,000	GENERAL REV.	
IMPLEMENT RECOMMENDATIONS OF WARRANT ANALYSIS WORK BY CONSULTANT THAT ADDRESSES PUBLIC AND PARTICULARLY SCHOOL AREA CONCERNS FOR PROBLEMATIC INTERSECTIONS AND PEDESTRIAN CROSSINGS. WORK MAY INCLUDE SIGNAGE, LINE PAINTING AND TRAFFIC CALMING MEASURES.			
PENTICTON GOLF & COUNTRY CLUB STORM SYSTEM REPAIRS	CITY \$85,000 <u>PGCC \$42,000</u> \$127,000	CARRY FORWARD PGCC SHARE,	
STABILISATION OF ROTTING TIMBER WALLS BY PLACING ROCK IN FRONT – WORK TO PROCEED WHEN GROUND IS FROZEN.			

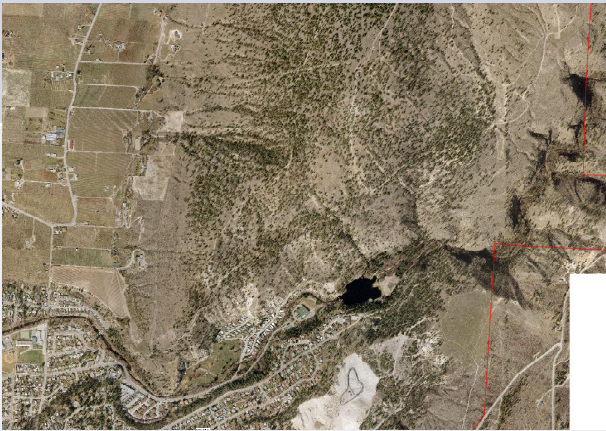
DESIGN: 2012 CAPITAL BUDGET HIGH PRIORITY

PROJECT	ESTIMATED COST	FUNDING	
SIDEWALKS, CURB & GUTTER CONSTRUCTION	\$240,000 <u>\$50,000</u> \$290,000	GENERAL REV, CARRY FORWARD	
INSTALL SIDEWALKS ON HIGH TRAFFIC ROADS PRIORITISED FOR VULNERABLE PEDESTRIANS. 2012 PROJECTS :			
INDUSTRIAL AVENUE (SOUTH SIDE) MAIN - QUEBEC		\$150,000	
DUNCAN AVENUE (SOUTH SIDE) ATKINSON – FAIRVIEW		\$45,000	
FAIRVIEW ROAD (WEST SIDE) DUNCAN - HUTH		\$45,000	
PINEVIEW ROAD DESIGN ONLY(NORTH SIDE) DARTMOUTH – CEDAR		\$50,000 CF	
CITY PARKING LOTS - SOEC CAR PARK	\$150,000	CARRY FORWARD	
DESIGN AND CONSTRUCT ADDITIONAL PARKING AT SOEC – EITHER AS DEVELOPMENT OF UNDEVELOPED AREA TO THE WEST SIDE OF SOEC ADJACENT TO ALBERNI STREET OR AS REDEVELOPMENT OF MAIN (UNUSED) VEHICLE ENTRANCE OFF ECKHARDT AVENUE.			


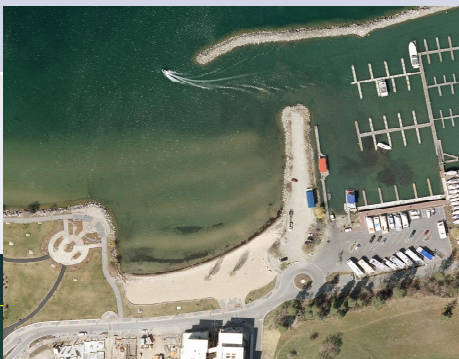

DESIGN: 2012 CAPITAL BUDGET HIGH PRIORITY

PROJECT	ESTIMATED COST	FUNDING	
EAST OKANAGAN WATERFRONT	\$145,000	GENERAL REV	
<p>UNDERTAKE WORK RELATED TO THE ENVIRONMENTAL, RIPARIAN & ECONOMIC ANALYSIS IN ADVANCE OF DEVELOPMENT OF THE EAST OKANAGAN WATERFRONT AS A PUBLIC PRIVATE PARTNERSHIP.</p>			
TUPPER ROAD INTERSECTION IMPROVEMENTS	\$10,000	GRANT	
<p>DESIGN AND IMPLEMENT ALIGNMENT, SIGNAGE AND ROAD MARKING IMPROVEMENTS AT THE INTERSECTIONS OF TUPPER AVENUE WITH MIDDLE AND LOWER BENCH ROADS. WILL SEEK ICBC GRANT</p>			
KIWANIS WALKING PIER ASSESSMENT	\$23,000	GENERAL REV	
<p>ENGAGE EXPERT TO ASSESS CONDITION OF STRUCTURE AND RECOMMEND ANY IMPROVEMENTS TO ADDRESS SAFETY AND FUNCTION. DEFINE BUDGET AND REMEDIATION PROGRAMME.</p>			


DESIGN: 2012 CAPITAL BUDGET MEDIUM PRIORITY

PROJECT	ESTIMATED COST	FUNDING	
PRE-DESIGN FOR ENGINEERING PROJECTS	\$30,000	GENERAL REV	
TO ADVANCE SURVEY, TESTING, UTILITY MODELLING, CONSULTING ASSISTANCE AND ENGINEERING TO ADDRESS PRE-DESIGN, DESIGN AND COST ESTIMATING FOR UNPLANNED PROJECTS.			
EASEMENT REVIEW	\$25,000	GENERAL REV	
IDENTIFY BY SURVEY AND UTILITY REVIEW WHERE CITY UTILITIES ARE LOCATED IN CORRIDORS THAT ARE NOT PROTECTED BY EASEMENT OR RIGHT-OF-WAY REGISTERED ON TITLE.			
FOOTPATHS AND WALKWAYS	\$77,000 <u>\$148,000</u> \$225,000	GENERAL REV, GRANT TOTAL	
CREATE TRAIL CONNECTION FROM PENTICTON AVENUE TO THE CAMPBELL MOUNTAIN BIKE TRAILS - \$40K FROM GENERAL REV.			
UPGRADE KVR TRAIL WITH ASPHALT MILLINGS FROM VANCOUVER PLACE TO SUTHERLAND ROAD - \$37K FROM GENERAL REV AND \$148K FROM PROV GRANT.)			

DESIGN: 2012 CAPITAL BUDGET LOW PRIORITY

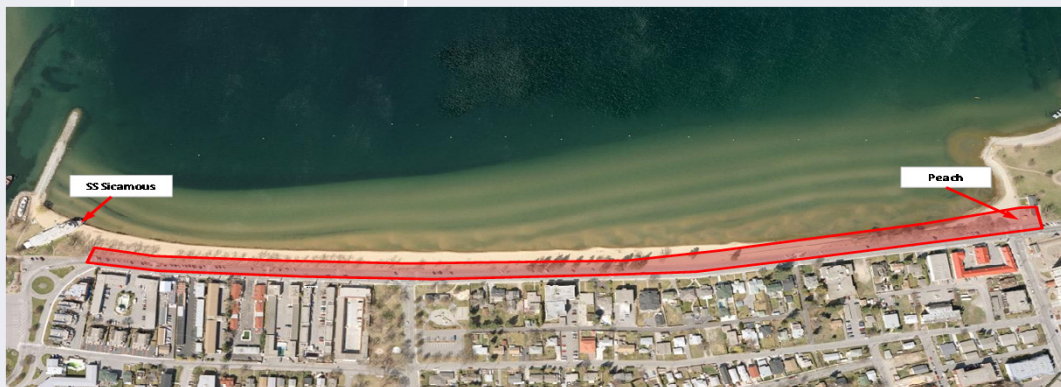
PROJECT	ESTIMATED COST	FUNDING	
NANAIMO SQUARE PUBLIC WASHROOM	\$30,000	GENERAL REV	
CONSTRUCT CUSTOM OR INSTALL PRE-FABRICATED PUBLIC WASHROOM C/W SEWER WATER AND ELECTRIC SERVICES.			
FLOATING DOCK	\$75,000	GENERAL REV	
INSTALL A DAY-USE FLOATING DOCK TO THE EAST SIDE OF THE EXISTING ROCK GROUYNE OPPOSITE ABBOT STREET. .			
MOORING BUOYS	\$2,500	GENERAL REV	
DESIGN FOR AND INSTALL UP TO 5 DAY-USE MOORING BUOYS IN THE VICINITY OF THE SS SICAMOUS.			

DESIGN: 2012 CAPITAL BUDGET SIGNIFICANT PROJECTS

PROJECT	ESTIMATED COST	FUNDING	
DOWNTOWN REVITALISATION	\$124,000 \$143,000 <u>\$NONE ASSUMED</u> \$267,000	GENERAL REV, CARRY FORWARD COST SHARING TOTAL	
<p>UNDERTAKE COMPREHENSIVE PUBLIC AND D.P.A. CONSULTATION PROCESS WITH COUNCIL TO :</p> <ul style="list-style-type: none"> • ESTABLISH EXTENT OF DOWNTOWN AREA TO BE REVITALISED, • CONSIDER PLANNING OBJECTIVES INCLUDING LAND USE PLANNING AND POTENTIAL RE-USE/CONSOLIDATION OF CITY PROPERTY. • ESTABLISH PARKING REQUIREMENTS, • REVIEW TRANSPORTATION OBJECTIVES AND SOLUTIONS INCLUDING TWO LANE ONE-WAY vs TWO-WAY, CYCLIST, PEDESTRIAN AND OTHER TRANSPORT MODES. • REVISIT PREVIOUS STREETScape DESIGN CONCEPT AND CONFIRM/REVISE REQUIRED FEATURES (TREES, ROAD/SIDEWALK MATERIALS, SCULPTURE, STREET FURNITURE, STREET LIGHTING ETC), • DEVELOP PRACTICAL CONSTRUCTION PHASING PLAN ADDRESSING SCHEDULE, BUDGET AVAILABILITY AND IMPACTS TO RETAILERS. • INVESTIGATE POTENTIAL FOR COST SHARING WITH LOCAL PROPERTY OWNERS. <p>CONCLUDE WITH PREPARATION OF PRE-DESIGN, COST ESTIMATES AND BUDGET FOR PHASED IMPLEMENTATION. DETAILED DESIGN AND CONSTRUCTION WOULD PROCEED IN 2013 ONWARDS.</p>			

DESIGN: 2012 CAPITAL BUDGET SIGNIFICANT PROJECTS

PROJECT	ESTIMATED COST	FUNDING	
OKANAGAN LAKE WATERFRONT PROMENADE	\$75,000 <u>\$75,000</u> <u>\$150,000</u>	GENERAL REV, CARRY FORWARD TOTAL	
<p>UNDERTAKE COMPREHENSIVE PUBLIC AND LOCAL PROPERTY OWNER. CONSULTATION PROCESS WITH COUNCIL TO :</p> <ul style="list-style-type: none"> • ESTABLISH EXTENT OF WATERFRONT TO BE UPGRADED, • ESTABLISH PARKING PROVISIONS (EXISTING ANGLE PARKING ON WATERFRONT vs REMOTE PARKING PROVISIONS AND DROP-OFF), • REVIEW TRANSPORTATION OBJECTIVES AND SOLUTIONS INCLUDING EXISTING 2 LANE TWO-WAY vs ONE-WAY WITH RE-ALLOCATION OF CORRIDOR TO IMPROVE/ACCOMMODATE CYCLIST, PEDESTRIAN AND OTHER TRANSPORT MODES. • REVIEW AND CONFIRM STREETScape DESIGN OPTIONS (TREES, ROAD/SIDEWALK/TRAIL MATERIALS, SCULPTURE, STREET FURNITURE, STREET LIGHTING , VENDING OPPORTUNITIES, ETC), • DEVELOP PRACTICAL CONSTRUCTION PHASING PLAN ADDRESSING SCHEDULE AND BUDGET AVAILABILITY. <p>CONCLUDE WITH PREPARATION OF PRE-DESIGN, COST ESTIMATES AND BUDGET FOR PHASED IMPLEMENTATION. DETAILED DESIGN AND CONSTRUCTION WOULD PROCEED IN 2013 ONWARDS.</p>			



2012 ENGINEERING CAPITAL BUDGET DESIGN SUMMARY

PRIORITY	SIGNIFICANT	HIGH PRIORITY	MEDIUM PRIORITY	LOW PRIORITY	TOTALS
WATER UTILITY		\$1,700,000			\$1,700,000
SEWER UTILITY		\$200,000			\$200,000
GENERAL REVENUE	\$199,000	\$858,000	\$132,000	\$107,500	\$1,296,500
CARRY FORWARD/ GRANT	\$218,000	\$365,000	\$148,000		\$731,000
TOTALS	\$417,000	\$3,123,000	\$280,000	\$107,500	\$3,927,500

2012 ENGINEERING CAPITAL BUDGET WTP & AWWTP SUMMARY

	HIGH PRIORITY
WATER UTILITY - WATER TREATMENT PLANT	\$40,000 \$160,000 CF
SEWER UTILITY – AWWTP EQUIPMENT	\$715,000

2012 ENGINEERING CAPITAL BUDGET SUMMARY

	WTP	AWWTP	DESIGN	TOTALS
WATER UTILITY	\$40,000		\$1,700,000	\$1,740,000
SEWER UTILITY		\$715,000	\$200,000	\$915,000
GENERAL REV.			\$1,296,500	\$1,296,500
C.F. / GRANT	\$160,000		\$731,000	\$891,000
TOTALS	\$200,000	\$715,000	\$3,927,500	\$4,842,500



QUESTIONS ?