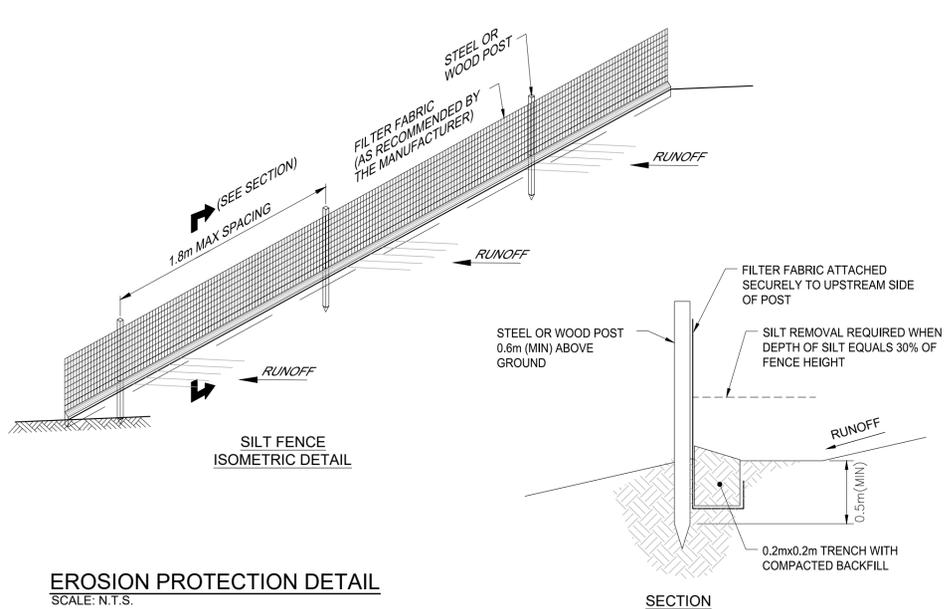
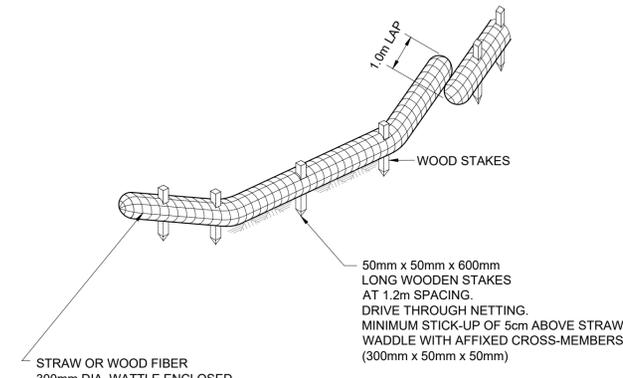


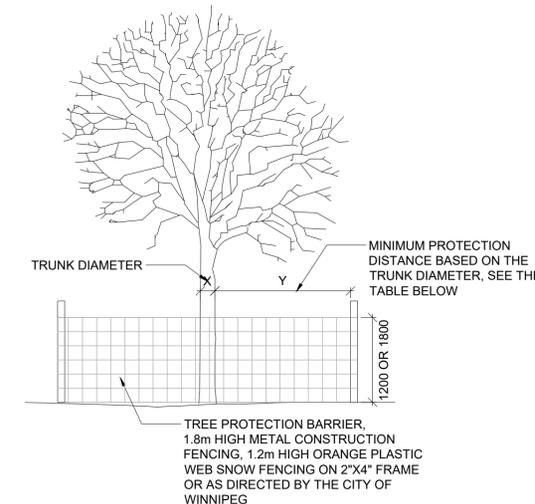
TYPICAL TENSION CRACK SEALING DETAIL
SCALE: 1:30 METRIC



EROSION PROTECTION DETAIL
SCALE: N.T.S.



TYPICAL STRAW WATTLE
SCALE: N.T.S.



CITY OF WINNIPEG TREE PROTECTION STANDARDS
SCALE: 1:50

| TREE PROTECTION ZONES | |
|-----------------------|---|
| X= TRUNK DIAMETER | Y= MINIMUM PROTECTION DISTANCE REQUIRED |
| <10CM | 2.0m |
| 11-40CM | 2.4m |
| 41-50CM | 3.0m |
| 51-60CM | 3.6m |
| 61-70CM | 4.2m |
| 71-80CM | 4.8m |
| 81-90CM | 5.4m |
| 91-100CM+ | 6.0m |

TRUNK DIAMETER ARE MEASURED AT BREAST HEIGHT AT 1.4 METRES ABOVE GROUND
TREE PROTECTION ZONE DISTANCES ARE TO BE MEASURED FROM THE OUTSIDE EDGE OF THE TREE BASE TOWARDS THE DRIP LINE.

NOTE:
STRAP MATURE TREE TRUNKS WITH 25 X150 X 2400 WOOD PLANKS. SMALLER TREES SHALL BE SIMILARLY PROTECTED USING APPROPRIATE SIZED WOOD PLANKS.
DO NOT STOCKPILE MATERIALS AND SOIL OR PARK VEHICLES AND EQUIPMENT ON BOULEVARDS WITHIN 2.0 METRES OF TREES.
EXCAVATIONS SHALL BE CARRIED OUT IN A MANNER TO MINIMIZE DAMAGE TO EXISTING ROOT SYSTEM. WHERE ROOTS MUST BE CUT TO FACILITATE AN EXCAVATION THEY SHALL BE NEATLY PRUNE AT THE FACE OF THE EXCAVATION.
WORK ON SITE SHALL BE CARRIED OUT IN A MANNER TO MINIMIZE DAMAGE TO EXISTING TREE BRANCHES. WHERE DAMAGE TO TREE BRANCHES DOES OCCUR, THE CONTRACTOR SHALL NEATLY PRUNE THE DAMAGED BRANCH.

NOTES:

1. LOCATION AND EXTENT OF EROSION PROTECTION MEASURES TO BE DETERMINED IN THE FIELD BY THE CONTRACT ADMINISTRATOR.
2. STRAW WATTLE INSTALLATION REQUIRED. PLACE AND SECURE STAKING OF THE ROLL IN A TRENCH, 3"-5" (75-125MM) DEEP, DUG ON CONTOUR. RUNOFF NOT ALLOWED TO RUN UNDER OR AROUND ROLL.
3. OPERATION OF EQUIPMENT WITHIN THE DRIFLINE OF THE TREES SHALL BE KEPT TO THE MINIMUM REQUIRED TO PERFORM THE WORK REQUIRED. EQUIPMENT SHALL NOT BE PARKED, REPAIRED, REFUELLED; CONSTRUCTION MATERIALS SHALL NOT BE STORED, AND EARTH MATERIALS SHALL NOT BE STOCKPILED WITHIN THE DRIFLINES OF TREES. EXCAVATION SHALL BE PERFORMED IN A MANNER THAT MINIMIZES DAMAGE TO THE EXISTING ROOT SYSTEMS. WHERE ROOTS MUST BE CUT TO FACILITATE EXCAVATION, THEY SHALL BE PRUNED NEATLY AT THE FACE OF EXCAVATION. THEY MUST BE PROPERLY TRIMMED WITH SHARP TOOLS TO PREVENT CRUSHING OR BEING PULLED BY CONSTRUCTION EQUIPMENT.



TYPICAL STEEL FENCING PROTECTION
SCALE: 1:50



SAFETY FENCE DETAIL
SCALE: 1:50

METRIC

WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

PROPERTY LIMITS DELINEATION
DELINEATION OF PROPERTY LIMITS AS SHOWN ON THIS DWG DOES NOT REPRESENT A "LEGAL SURVEY". KGS GROUP MAKES NO REPRESENTATION OR WARRANTY AS TO THE ACCURACY OF PROPERTY LIMITS DELINEATED ON THIS DWG, NOR ON THE DIMENSIONAL ACCURACY OF DWG FEATURES RELATIVE TO THOSE PROPERTY LIMITS.

WARNING

1. NOTIFY THE GAS COMPANY OF THE PROPOSED LOCATION OF EXCAVATION.
2. TAKE PRECAUTION TO AVOID DAMAGE TO GAS COMPANY INSTALLATIONS.
3. SEE PROVINCIAL REGULATION 210/72 FOR DETAILS.

ISSUED FOR TENDER

ENGINEERS GEOSCIENTISTS MANITOBA
Certificate of Authorization
KGS Group
No. 245

THE CITY OF WINNIPEG PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION

PROJECT TITLE: **ST. MARY'S ROAD RIVERBANK STABILITY IMPROVEMENT WORKS**

ENGINEER'S SEAL

CONSULTANT DRAWING NO. **G05**

SHEET **5** OF **5**

COMPUTER FILE NAME: **22-0107-010_G05**

CITY DRAWING NUMBER: **RW753-22-05**

EROSION CONTROL MEASURES

File Name: U:\EUS\22-0107-010-G05 - Tab 0 Plotted By: jpoon 22/08/12 [Fr: 11:08am] At: (8416594) / PLOT SCALE: 1:11

| EXISTING | LEGEND-PLAN | PROPOSED | EXISTING | LEGEND-PLAN | PROPOSED | EXISTING | LEGEND-PROFILE | PROPOSED |
|----------|---------------------|----------|----------|--------------------|-----------|----------|---------------------|----------|
| 300 LDS | LAND DRAINAGE SEWER | 300 LDS | -x-x-x- | FENCE | | | | |
| 250 WWS | WASTE WATER SEWER | 250 WWS | + | TEST HOLE | | | | |
| --- | GAS | --- | - - - | GUY WIRE | | | | |
| --- | HYDRO | --- | ••• | LIGHT STANDARD | | | | |
| --- | M.T.S. | --- | --- | BACK OF CURB | | | | |
| 150 WM | WATERMAIN | 150 WM | --- | CONCRETE | | X-X | Q PROFILE | X-X |
| + | HYDRANT | + | + | ASPHALT | | □ | EDGE OF ALLEY LHS | □ |
| ⊗ | VALVE | ⊗ | ⊗ | SIDEWALK | | □ | EDGE OF ALLEY RHS | □ |
| ○ | MANHOLE | ○ | ○ | PROPERTY LINE | --- | ◇ | N/W LANE P L | ◇ |
| □ | CATCH BASIN | □ | + | SURVEY BAR | + | ○ | S/E MEDIAN P L | ○ |
| ▽ | CURB INLET | ▽ | ⊙ | GEODETIC BENCHMARK | ▲ | UHSRIS | GARAGE/PARKING SLAB | UHSRIS |
| • | POLES | • | 231.33 | ELEVATION | (232.231) | TTTTT | WINDOW/DOOR SILL | TTTTT |

LOCATION APPROVED UNDERGROUND STRUCTURES

SUPV. U/G STRUCTURES COMMITTEE DATE

NOTE:
LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.

| B.M. ELEV. | NO. | REVISIONS | DATE | BY |
|------------|-----|-------------------|----------|-----|
| | 0 | ISSUED FOR TENDER | 22/08/12 | BPA |

| DESIGNED BY | CR | CHECKED BY | BPA |
|-------------|----------|----------------------------|-----|
| DRAWN BY | JP | APPROVED BY | BPA |
| HOR. SCALE: | AS NOTED | RELEASED FOR CONSTRUCTION: | |
| VERTICAL: | | DATE | |

KGS GROUP