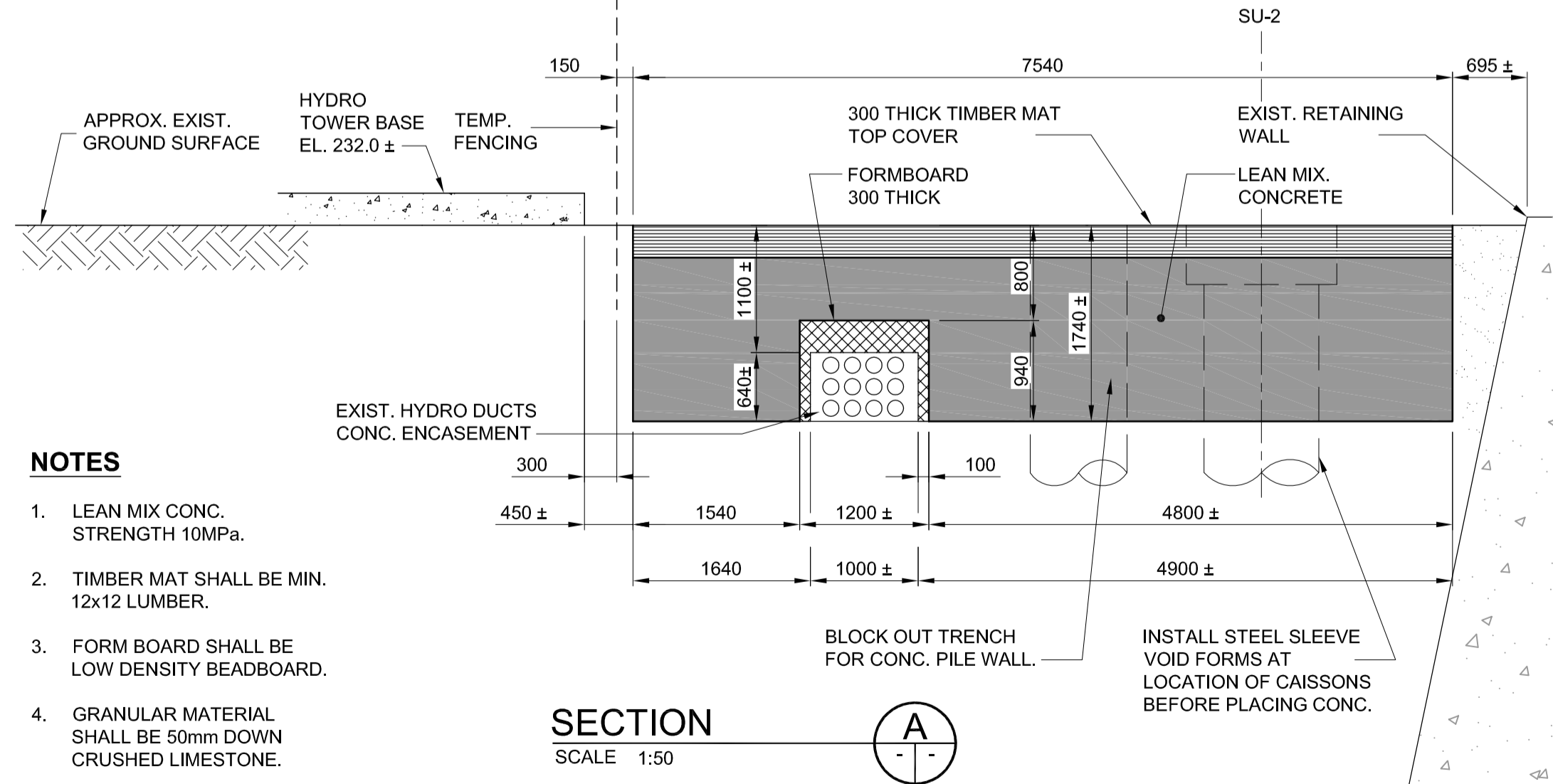


PLAN OF HYDRO DUCTS @ SU-2

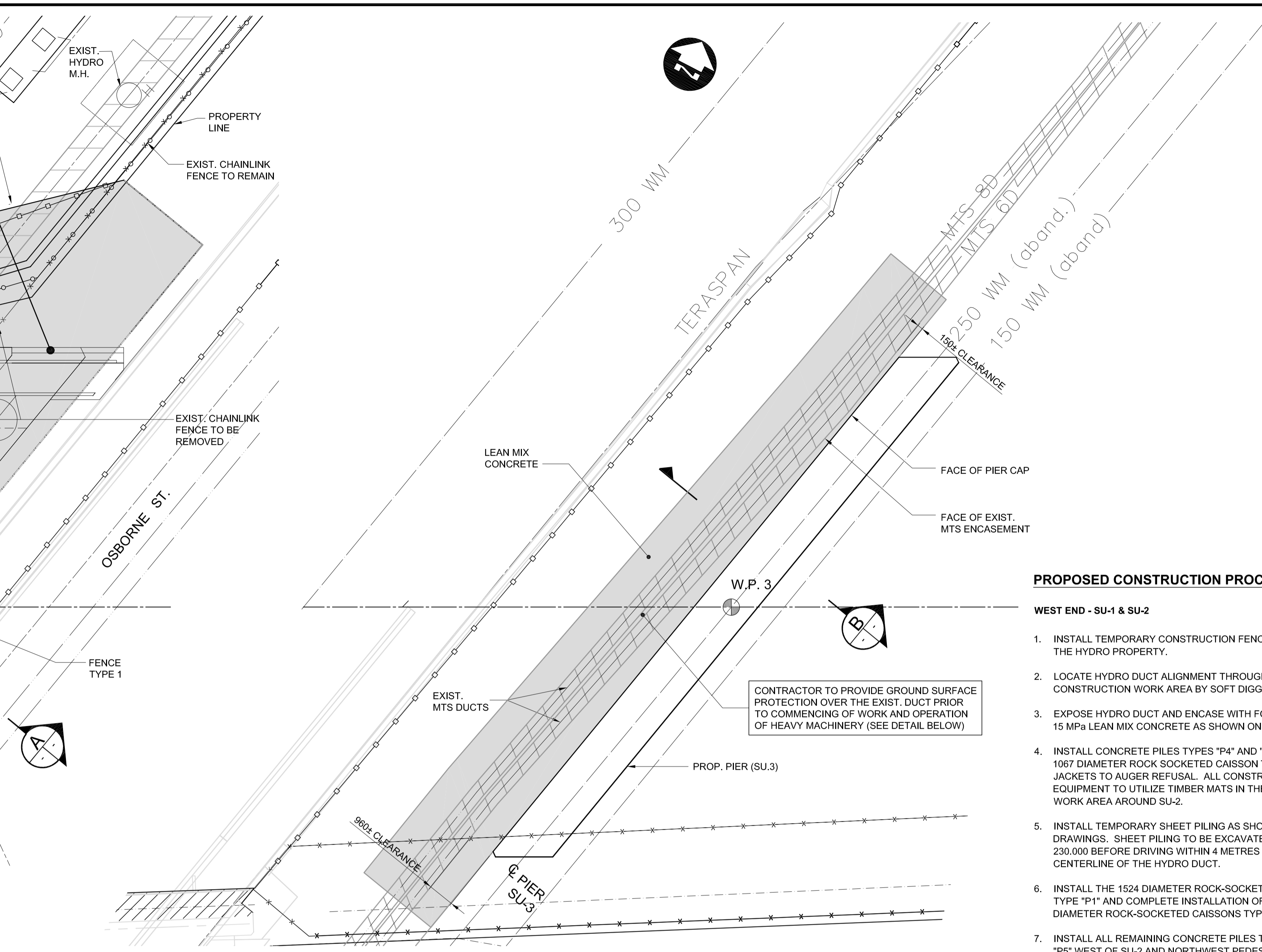
SCALE 1:100



SECTION A

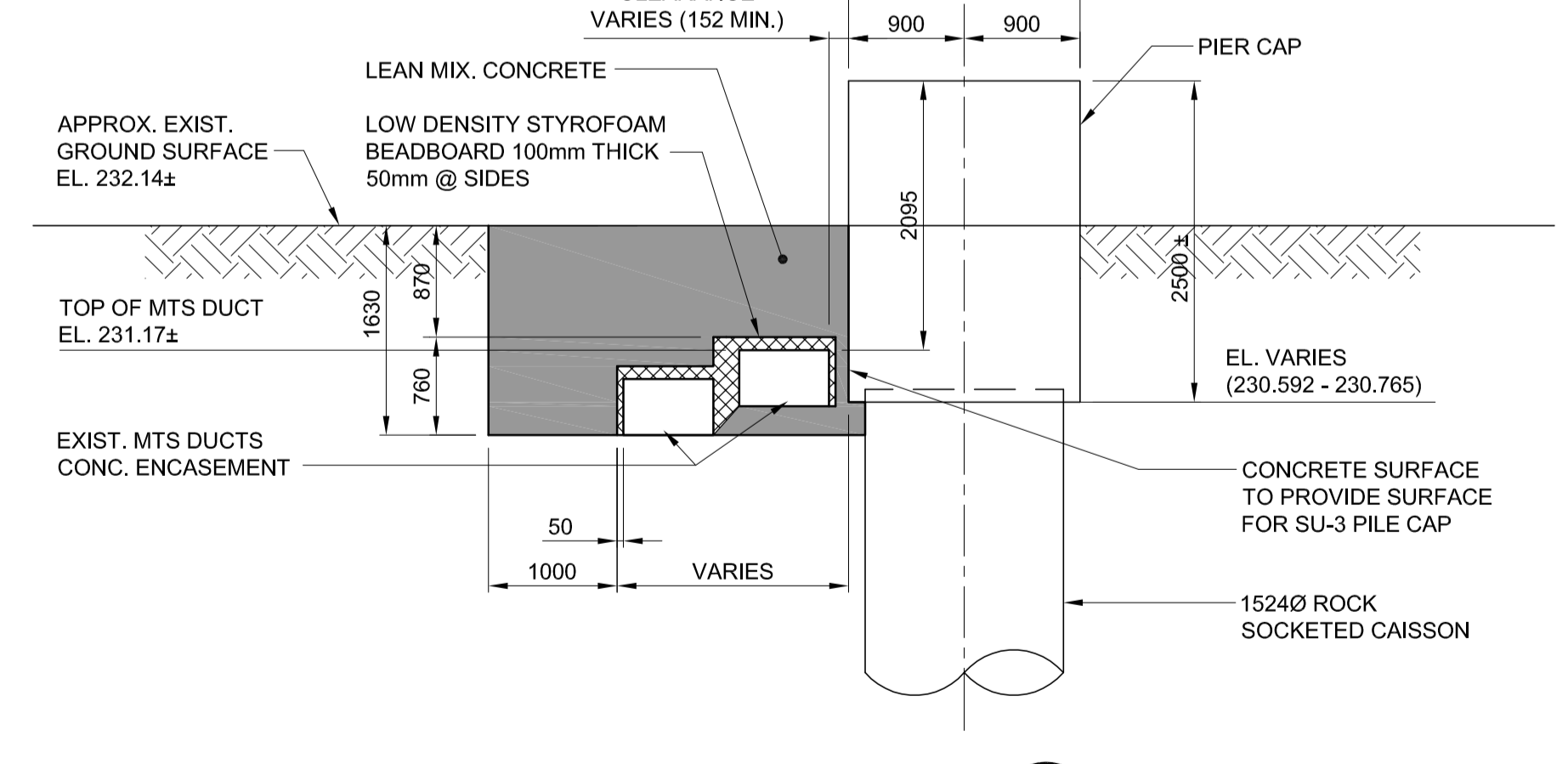
SCALE 1:50

- NOTES**
- LEAN MIX CONC. STRENGTH 10MPa.
 - TIMBER MAT SHALL BE MIN. 12x12 LUMBER.
 - FORM BOARD SHALL BE LOW DENSITY BEADBOARD.
 - GRANULAR MATERIAL SHALL BE 50mm DOWN CRUSHED LIMESTONE.



PLAN OF MTS DUCTS @ SU-3

SCALE 1:100



SECTION B

SCALE 1:50

PROPOSED CONSTRUCTION PROCEEDURES

- WEST END - SU-1 & SU-2**
- INSTALL TEMPORARY CONSTRUCTION FENCING TO SECURE THE HYDRO PROPERTY.
 - LOCATE HYDRO DUCT ALIGNMENT THROUGH CONSTRUCTION WORK AREA BY SOFT DIGGING.
 - EXPOSE HYDRO DUCT AND ENCASE WITH FORMBOARD AND 15 MPa LEAN MIX CONCRETE AS SHOWN ON THE DRAWING.
 - INSTALL CONCRETE PILES TYPES "P4" AND "P5" AND THE 1067 DIAMETER ROCK SOCKETED CAISSON TYPE "P2" STEEL JACKETS TO AUGER REFUSAL. ALL CONSTRUCTION EQUIPMENT TO UTILIZE TIMBER MATS IN THE DESIGNATED WORK AREA AROUND SU-2.
 - INSTALL TEMPORARY SHEET PILING AS SHOWN ON THE DRAWINGS. SHEET PILING TO BE EXCAVATED TO ELEVATION 230.000 BEFORE DRIVING WITHIN 4 METRES OF THE CENTERLINE OF THE HYDRO DUCT.
 - INSTALL THE 1524 DIAMETER ROCK-SOCKETED CAISSONS TYPE "P1" AND COMPLETE INSTALLATION OF THE 1067 DIAMETER ROCK-SOCKETED CAISSONS TYPE "P2".
 - INSTALL ALL REMAINING CONCRETE PILES TYPE "P4" AND "P5" WEST OF SU-2 AND NORTHWEST PEDESTRIAN RAMP PILES.
 - DRIVE STEEL HP-PILES TYPE "P3" FOR SU-1 ABUTMENT.
 - EXCAVATE AND CONSTRUCT SU-2 PILE CAP.
 - REMOVE HYDRO DUCT CONCRETE PROTECTION, FORMBOARD AND REPLACE WITH 20mm CRUSHED LIMESTONE. REMOVAL MEASURES CANNOT UTILIZE JACKHAMMERS BUT MUST UTILIZE DRILLING AND HYDRAULIC SPLITTERS OR OTHER NON-IMPACT EQUIPMENT.
 - EXCAVATE AND CONSTRUCT SU-1 ABUTMENT AND RETAINING WALL SYSTEMS WEST OF SU-2 COMPLETE WITH NORTH SIDE SHORING SYSTEM.
 - NORTH SIDE SHORING SYSTEM TO BE DESIGNED BY CONTRACTOR AND SEALED BY A PROFESSIONAL ENGINEER IN THE PROVINCE OF MANITOBA.
 - REMOVE TEMPORARY SOUTH SIDE SHEET PILE SHORING IN STAGES IN CONJUNCTION WITH BACKFILLING OPERATIONS AND REMOVAL EQUIPMENT ACCESS RESTRICTIONS.
 - CONTRACTOR TO UTILIZE SUITABLE EQUIPMENT WHERE OVERHEAD TRANSMISSION LINES LIMIT HEIGHT OF DRILLING MASTS.

LOCATION UNDERGROUND	APPROVED STRUCTURES	B.M. ELEV.	654265 (633392.694, 5525026.192) 232.518
SUPV. U/G STRUCTURES COMMITTEE	DATE	DESIGNED BY	FAK
		DRAWN BY	NBG
		CHECKED BY	SSR
		APPROVED BY	DPK
		HOR. SCALE	
		VERTICAL	
1	ISSUED FOR TENDER	10/05/14	DPK
NO.	REVISIONS	DATE	BY
		2010/05/14	

DESIGNED BY	FAK
DRAWN BY	NBG
CHECKED BY	SSR
APPROVED BY	DPK
HOR. SCALE	
VERTICAL	
1	ISSUED FOR TENDER
NO.	REVISIONS
	DATE
	2010/05/14

RELEASED FOR CONSTRUCTION

ORIGINAL SIGNED BY RANDY FINGAS

DATE 2010/05/14

ENGINEER'S SEAL

PROVINCE OF MANITOBA

ORIGINAL STAMPED BY S.S. RIHAL 2010/05/14

REGISTERED PROFESSIONAL ENGINEER

CONSULTANT PROJECT NO. 088813

THE CITY OF WINNIPEG TRANSIT DEPARTMENT

Winnipeg

SOUTHWEST RAPID TRANSIT CORRIDOR - STAGE 1

OSBORNE STATION & ASSOCIATED WORKS

CITY DRAWING NUMBER B237-10-12

SHEET 12 OF 121

CONSULTANT DRAWING NUMBER C5-S1000-T

PROTECTION FOR EXISTING UNDERGROUND UTILITIES

APEGM

Certificate of Authorization

Dillon Consulting Limited (MB)

No. 1789 Date: 2010/05/14