GENERAL STRUCTURAL NOTES I. STRUCTURAL DESIGN CRITERIA 1.0 CODES & STANDARDS: 1.1 GOVERNING CODES: 1.1.1 NATIONAL STRUCTURAL CODE OF THE PHILIPPINES (NSCP); BUILDINGS, TOWERS AND OTHER VERTICAL STRUCTURES, ASSCOCIATION OF STRUCTURAL ENGINEERS OF THE PHILIPPINES (ASEP) PUBLICATION. 1.1.2 INTERNATIONAL BUILDING CODE 2000, INTERNATIONAL CODE COUNCIL, INC. ; UNIFORM BUILDING CODE (UBC) 1.1.3 AMERICAN CONCRETE INSTITUTE (ACI) STANDARDS ACI 318 - BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE STRUCTURES ACI 315 - MANUAL OF STANDARD PRACTICE FOR DETAILS AND DETAILING OF CONCRETE REINFORCEMENT ACI 350 - ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES 1.1.4 MANUAL OF STEEL CONSTRUCTION (AISC), ALLOWABLE STRESS DESIGN. 1.1.5 MINIMUM DESIGN LOADS FOR BUILDING AND OTHER STRUCTURES, AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE) PUBLICATION. 1.1.6 COLD-FORMED STEEL DESIGN MANUAL, AMERICAN IRON AND STEEL INSTITUTE (AISI) PUBLICATION. 1.1.7 AMERICAN SOCIETY OF TESTING AND MATERIALS (ASTM). 1.1.8 PORTLAND CEMENT ASSOCIATION MANUAL (PCA). 1.1.9 PHILIPPINE NATIONAL STANDARDS (PNS). 1.2 GOVERNING STANDARDS: SPECIFICATION FOR STRUCTURAL STEEL ASTM A36 ASTM A53 STANDARD SPECIFICATION FOR PIPE, STEEL, BLACK AND HOT DIPPED, ZINC-COATED WELDED AND SEAMLESS. ASTM A611 SPECIFICATION FOR STEEL, SHEET, CARBON, COLD-ROLLED, STRUCTURAL QUALITY. SPECIFICATION FOR DEFORMED AND PLAIN BILLET-STEEL BARS FOR ASTM A615 CONCRETE REINFORCEMENT STEEEL BARS FOR CONCRETE REINFORCEMENT SPECIFICATION. PNS 49 ASTM C33/PNS 18 STANDARD SPECIFICATION FOR CONCRETE AGGREGATES. STANDARD TEST METHOD FOR COMPREHENSIVE STRENGTH OF CYLINDICAL ASTM C39 CONCRETE SPECIMENS. 3.2 STEEL STANDARD SPECIFICATION FOR READY-MIXED CONCRETE. ASTM C94/PNS 46 STANDARD SPECIFICATION FOR PORTLAND CEMENT. ASTM C150/PNS 07 PHILIPPINES NATIONAL STANDARD FOR CONCRETE HOLLOW BLOCKS. **PNS 16** 2.0 DESIGN LOADS: 2.1 DEAD LOADS (DL): 2.1.1 ROOF DEAD LOADS (Dr): CEILING -—0.24 KN/m² (5psf) LIGHT GAGE PURLINS — -0.10 KN/m² (1psf) MECHANICAL AND ELECTRICAL FEATURES ------0.10 KN/m² (2psf) METAL ROOFING --0.10 KN/m² (2psf) 2.1.2 FLOOR DEAD LOADS (D): 150mm THICK HOLLOW CONCRETE MASONRY UNTIS, FULLY GROUTED & PLASTERED EACH FACE -----2.1.1 MATERIALS: _ 24.0 KN/m² (150 pcf) CONCRETE __17.6 KN/m² (112 pcf) SOIL ____ 1.0 GENERAL STEEL -78.0 KN/m² (490 pcf) WATER - 9.81 KN/m² (62.4 pcf) 2.2 LIVE LOADS (LL): 2.1.1 ROOF -0.5 KN/m² (10 PSF) PITCHED — 1.0 KN/m² (21 PSF) FLAT — 0.5 KN/m² (40 PSF) DECK -2.1.1 FLOOR AREAS — 0.5 KN/m² (10 PSF) PUMP FLOOR AREA -STORAGE FLOOR AREA -1.0 KN/m² (21 PSF) PLATFORMS AND WALKWAYS — -0.5 KN/m² (40 PSF) HOUSING FLOOR AREA -0.5 KN/m² (40 PSF) WORKSHOP FLOOR -- 0.5 KN/m² (40 PSF) 2.3 WIND LOAD (WL): 2.3.1 WIND LOAD SHALL BE CONSIDERED IN THE DESIGN IN ACCORDANCE WITH NSCP. WIND SHALL BE ASSUMED TO COME FROM ANY HORIZONTAL DIRECTION. NO REDUCTION IN WIND PRESSURE SHALL BE TAKEN FOR THE SHIELDING EFFECT OF ADJACENT STRUCTURES. P=CeCq**q**sl Where: P = Design wind pressure Ce = Combined height, exposure and gust factor coefficient Cq = Pressure coefficient for the structure or portion of structure under consideration qs = Wind stagnation pressure at a height of 10 meters I = Importance factor as set forth by occupancy category The minimum basic wind speed at any site shall not be less than 150kph. 2.4 EARTHQUAKE LOAD(EL) 2.4.1 DESIGN BASE SHEAR (IN ACCORDANCE WITH NSCP) V=<u>ZIC</u>.W Rw Where: Z = Zeismic zone factor I = Importance factor Rw = Numerical coefficient W = The total zeismic load C = Numerical coefficient as determined from the formula C = <u>1.25 S</u> > 2.75 Tấ S = Site coefficient for the soil characteristics T = Fundamental period of vibration, in seconds, BEAM of the structure for the direction under consideration T = Ct (hn) 🖁 Ct = 0.50 hn = Height, in m, above the base of level n 2.4.2 BASIC ALLOWABLE STRESSES ARE INCREASED BY 33% FOR COMBINED DL+ LL+EL OR DL+LL+WL WHICH EVER IS GREATER. COLUMN 2.4.3 SEISMIC ZONE FACTOR FOR THE AREA Z = 0.4g 2.5 HYDROSTATIC AND HYDRODYNAMIC LOADS 2.5.1 ALL HYDRAULIC STRUCTURES SHALL BE DESIGNED FOR HYDROSTATIC FORCES IMPOSED BY THE FLUID CONTAINED IN THESE STRUCTURES. ALL HYDRAULIC STRUCTURES SHALL BE DESIGNED FOR HYDRODYNAMIC FORCES USING THE BEAM GROUND ACCELERATION AND THE RESPONSE SPECTRA PROVIDED BY THE GEOTECHNICAL REPORT. 2.5.2 LOADINGS SHALL BE CALCULATED FOR DIFFERENT CONDITIONS. AS A MINIMUM. THE FOLLOWING LOAD COMBINATIONS SHALL BE DETERMINED. 2.5.2.1 TANK FULL: HYDROSTATIC LOADING PLUS DEAD LOAD OR HYDRODYNAMIC LOADING PLUS SEISMIC FORCES DUE TO DEAD LOADS OR HYDRODYNAMIC LOADING PLUS SEISMIC FORCES DUE TO DEAD LOADS PLUS DEAD LOADS. 2.5.2.2 TANK EMPTY: STATIC SOIL PRESSURE (ACTIVE OR AT REST) PLUS DEAD LOAD OR SEISMIC SOIL PRESSURE PLUS SEISMIC FORCES DUE TO DEAD LOADS PLUS PERMANENT SURCHARGE. 2.6 LATERAL EARTH PRESSURE 2.6.1 LATERAL EARTH PRESSURE IS CALCULATED BASED ON A LATERAL EARTH PRESSURE COEFFICIENT EQUAL TO 0.33 2.6.2 ALL BELOW-GRADE STRUCTURES OR PARTS OF STRUCTURES SHALL BE DESIGNED WALL FOR THE FOLLOWING SOIL PRESSURE 2.6.2.1 ACTIVE SOIL PRESSURE FOR ALL YIELDING WALLS (I.E., CANTILEVERED WALLS) 2.6.2.2 AT-REST SOIL PRESSURE FOR ALL NON-YIELDING WALLS (I.E., RESTRAINED OR SUPPORTED WALLS) 2.6.2.3 A MINIMUM SURCHARGE PRESSURE EQUAL TO AN ADDITIONAL 0.60m OF SOIL 2.6.2.4 SOIL PRESSURE DURING EARTHQUAKE 2.7 UPLIFT 2.7.1 ALL STRUCTURES SHALL BE CHECKED FOR UPLIFT WHEN SUBJECTED TO HIGH WATER TABLE. **3.0 MINIMUM MATERIAL STRENGTH** 2.3 3.1 CONCRETE 3.1.1 MINIMUM COMPRESSIVE STRENGTH, fc' THE STANDARD MINIMUM CYLINDER COMPRESSIVE STRENGTH AT 28 DAYS FOR DIFFERENT CLASS/ TYPE OF CONCRETE AS FOLLOWS: MORTAR — -0.5 KN/m² (10 PSF) LEAN CONCRETE — 1.0 KN/m² (21 PSF)

SANITARY ENGINEERING STRUCTURES 3.1.2 RECOMMENDED ALLOWABLE STRESSES FOR CONCRETE IN ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES THAT MUST BE WATER TIGHT AND RESISTANT TO CHEMICALS ARE MODULUS OF ELASTICITY RATIO: n = <u>29,000,000</u> = 8 w(1.5)x 33(fc') 1/2 FLEXURE: EXTREME FIBER STRESS IN COMPRESSION fc = 0.45 fc' 10.80 MPa (1,575 PSI) EXTREME FIBER STRESS IN TENSION IN PLAIN CONCRETE FOOTINGS AND WALL fc = 1.6 fc $\frac{1}{2}$ 7.84 MPa (94.66 PSI) SHEAR: v(AS A MEASURE OF DIAGONAL TENSION AT d FROM FACE TO SUPPORT) BEAMS WITH NO WEB REINFORCEMENT $vc = 1.1(fc)^{\frac{1}{2}}$ 5.39MPa (65.08 PSI) JOIST WITH NO WEB REINFORCEMENT $vc = 1.2(fc)\frac{1}{2}$ 5.88MPa (70.99 PSI) MEMBERS WITH WEB REINFORCEMENT OR PROPERLY COMBINED BENT BARS AND VERTICAL STIRRUPS $vc = 5(fc)^{\frac{1}{2}}$ 9.80MPa (295.80 PSI) SLABS AND FOOTING (PERIPHERAL SHEAR) $vc = 2(fc)\frac{1}{2}$ 9.80MPa (118.32 PSI) BEARING: ON FULL AREA 0.25 (fc) $\frac{1}{2}$ 1.225 MPa(14.79 PSI) ON $\frac{1}{2}$ AREA OR LESS 0.375 (fc) $\frac{1}{2}$ 1.837 MPa(22.19 PSI) ALLOWABLE STRESSES SHALL BE INCREASED BY 33% WHEN CONSIDERING HYDRODYNAMIC, SEISMIC AND WIND LOADING WHETHER ACTING ALONE OR IN COMBINATION WITH OTHER LOADS. STEEL DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), STEEL CONSTRUCTION MANUAL AND AMERICAN WELDING SOCIETY (AWS) 3.2.1 REINFORCING BARS SHALL CONFORM TO THE PHILIPPINE NATIONAL STANDARD (PNS) FOR IMMEDIATE GRADE DEFORMED BAR OR INTERMEDIATE GARDE WITH DEFORMATION CONFORMING TO ASTM A 615. ALLOWABLE TENSILE STRENGTH, fs = 138MPa (20,000 PSI) YIELD TENSILE STRENGTH, fy = 276MPa (40,000 PSI) 3.2.2 ALL STRUCTURAL SHAPES, BARS, PLATES AND SHEETS SHALL BE STEEL CONFORMING TO ASTM A 36. YIELD TENSILE STRENGTH. fv = 250MPa (36.000 PSI) 3.2.3 MISCELLANEOUS METAL WORKS SHOP AND FIELD WELDING SHALL BE IN ACCORDANCE WITH AWS A 5.1 OR A 5.5 (E70XX SERIES) **II. CONSTRUCTION NOTES** 1. THE STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE SPECIFICATIONS, THE ARCHITECTURAL, MECHANICAL, ELECTRICAL AND CIVIL DRAWINGS. 2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE SITE, WHICH SHALL INCLUDE THE LOCATION AND DIMENSIONS OF OPENINGS, GROOVES, REGLETS, PIPE SLEEVES, CONDUITS, EMBEDDED OR ATTACHED ITEMS TO CONCRETE, ETC. 3. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT NEW AND EXISTING CONSTRUCTION. THIS SHALL INCLUDE BUT NOT BE LIMITED TO BRACING AND SHORING FOR LOADS IMPOSED DURING CONSTRUCTION. 4. ALL DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALE SHOWN ON PLANS, SECTIONS AND DETAILS. 5. GENERAL NOTES AND TYPICAL DETAILS APPLY TO ALL DRAWINGS UNLESS OTHERWISE SHOWN OR NOTED. 6. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. 7. ALL BAR DIAMETERS AND SPACINGS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. 8. ALL FOUNDATIONS SHALL REST ON 50 THK LEAN CONCRETE, UNLESS OTHERWISE SHOWN OR NOTED. 2.0 CONCRETE AND REINFORCING STEEL 2.1 MINIMUM CONCRETE COVER TO ALL REINFORCING BARS SHALL BE AS FOLLOWS: MINIMUM LOCATION OR CONCRETE MEMBER FIGURE CONDITION OVER (mm) SIDE 75 FOOTING/ FOUNDATION • • BOTTOM 75 75 __65___65__ TOP 65 0 0 FOOTING TIE SIDE 65 _ BOTTOM 75 50/65 ABOVE GROUND 50 LEVEL BELOW GROUND ____ LEVEL 50/65 50 50 50 SUSPENDED TOP & BOTTOM 30* SLAB AND STAIR 30/40 30/40 STRUCTURAL WALL (DRY CONDITION) NON STRUCTURAL WALL (DRY CONDITION) FORMED CONCRETE _50__50_ SURFACES EXPOSED TO EARTH, WATER, 50 SEWAGE, WEATHER OR IN CONTACT WITH GROUND

STRUCTURAL CONCRETE -

STRUCTURAL CONCRETE -----

FOR OFFICE / HOUSING

FOR ENVIRONMENTAL AND

* EXCLUDING LEVELING CONCRETE

2.2 REINFORCING BARS SHALL BE FREE OF RUST, GREASE OR OTHER MATERIALS LIKELY TO IMPAIR BOND.

2.3 ALL REINFORCING BARS SHALL BE ACCURATELY AND SECURELY PLACED BEFORE POURING CONCRETE, APPLYING MORTAR OR GROUT.

2.4 BAR SPLICES SHALL BE SECURELY WIRED TOGETHER. SPLICES IN REINFORCED CONCRETE BEAMS COLUMNS AND WALLS SHALL BE AS SHOWN IN THE DETAILS. FOR NON-STRUCTURAL WALLS, MASONRY WALLS AND SLABS, SPLICES SHALL LAP A MINIMUM OF 40 BAR DIAMETERS AND SHALL BE STAGGERED WHEREVER POSSIBLE.

Antiportation and		TADAN	PREPARED BY:		RECOMMENDNG APPROVAL:
Republic of the Philippines DEPARTMENT OF TRANSPORTATION AND COMMUNICATIONS	jica	JAPAN INTERNATIONAL COOPERATION AGENCY	IRENE RING	OR-BALANA	
			PROF: Civil Engineer	PTR. 7651636	
HCA DESIGN CONSUL	TANT IONT VENTURE		REG. NO.: 15611	DATE: January 11, 2013	
JICA DESIGN CONSUL	TANT JOINT VENTURE		T.I.N. 106–440–747	PLACE: Quezon City	
JAC 22 JAPAN AIRPORT CONSULTANTS, INC.	NIPPON KOEI CO., LTD.		TADAS Team	SHI AOI Leader	<u>ILDEFONSO T. PATDU, JR.</u> Assistant Secretary for Project Implementation, DOTC

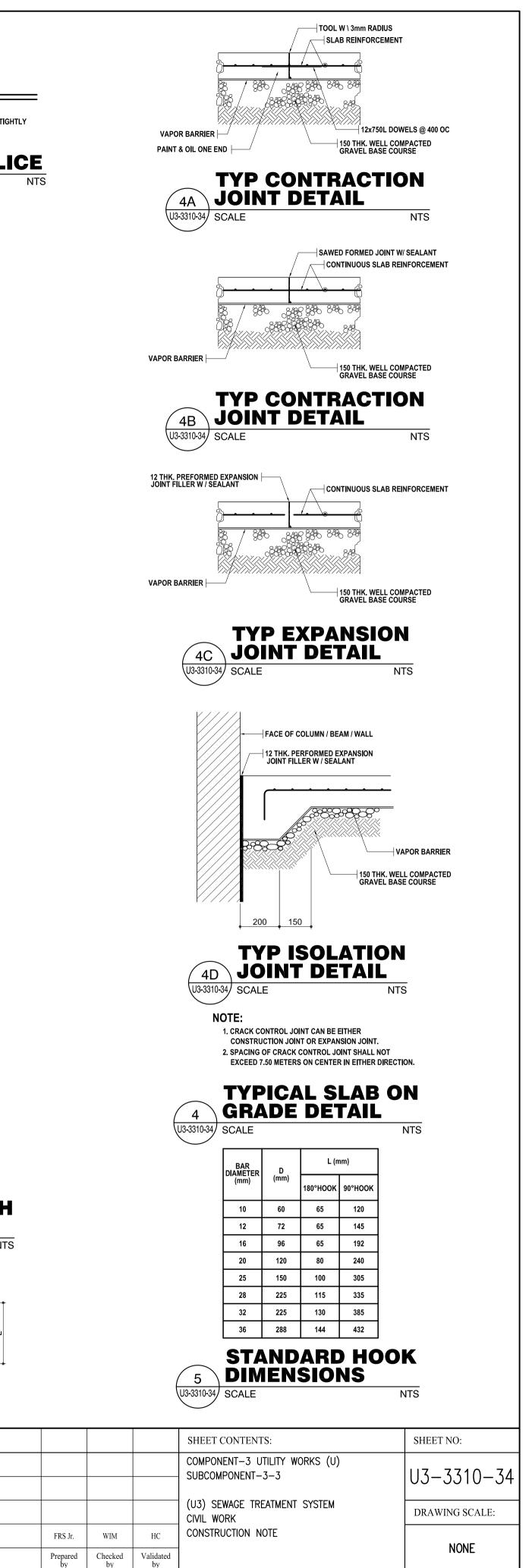
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ARE AS FOLLOWS		DURING REMOV	AL OF FORM IN				FERATION /	AND STRAIGHTENED				—		
	3.1 AL AN	L MATERIALS AN IERICAN INSTITU	D WORKMANS											WIRE TIED TI TOGETHER
	3.2 CO CO	MTRACTOR SHAI					,			FSET	_		-	SPL
	3.3 WE UN	LDING SHALL BE LESS INDICATED L BOLTS AND TH	OTHERWISE. W	WELDING EL	CTRODES SI	HALL BE E7	0XX.		U3-3310-34 SCALE	NTS	5	(U3-30	B10-34 SCALE	
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		L CONCRETE HO				LL BE LAID	IN RUNNING	BOND		V.	1			K .
	4.2 AL	TERLOCKING CO L SHELLS SHALL	,			GROUT.								\checkmark
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	5.2	E TYPES OF CON .1 INDIVIDUAL I .2 REINFORCEI	FOOTING FOR F	REINFORCED	CONCRETE	COLUMNS.		NCRETE WALLS.				L (m	m)	
	5.3 TH CO	NFIRM ACTUAL E	SHALL REPOR BEARING CAPA	T IN WRITING	G TO THE DE L BEFORE D	SIGNER TH	CONCRETE.	OIL CONDITION UNCOVERED AND . SOIL INVESTIGATION SHALL		DIAM (m			TYPE II	
	5.4 AI CO	L FOUNDATIONS	S SHALL REST O	ON 150mm T THERWISE.	НК СОМРАС	TED GRAVE	EL BASE COU	MINE SOIL BEARING CAPACITY. JRSE, OR 50mm THK LEAN					оок 135°ноок	
	FIL CO	MPACTED TO MI	ING MATERIAL NIMUM 95% MD	S SHALL BE D BASED ON	COMPOSED ASTM D-69	OF GRANU	ILAR MATER	150mm THK. IALS (LESS THAN 7% FINES) F COMPACTION STRICTLY			0 40 2 41			
	۵.0 SLAB O	NITORED BY FIE		•	D-1558).					NOTE	TYPE II FOR	R GENERAL USE R SEISMIC USE (FOR ALL EAMS CONNECTED TO C		
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				ERS AND MA	XIMUM JOIN	IT SPACING	AT 12 M.			<u>2</u> H	DOK	DIMEN	SION	-
	ABBRE\ @). AT			FLR		GLOOR	(03-2	3310-34 SCA	LE		NTS	5
	& Ø		AND DIAMETER			GA HOR		GAGE HORIZONTAL		Xd 300 (M	IN)		Xd 300 (MIN	1)
	BC BOT		BOTTOM CHORI BOTTOM	D		MAX M		MAXIMUM METER						
	ନ୍ CHB		CENTER LINE	LOW BLOCK	(mm MIN		MILLIMETER MINIMUM	CRITICAL SECTION —		+			
	CJ COL		CONSTRUCTION COLUMN	I JOINT		NGL OC	_	NATURAL GRADE LINE ON CENTER			U		-	
	CONN	<u> </u>	CONCRETE			OPP PEJ		OPPPOSITE PERFORMED EXPANSION JOIN	т			MINIMUM DEVELOP	MENT LENGTH	7
	CONT DET	C	CONTINOUS			RC REINF		REINFORCED CONCRETE REINFORCEMENT		BAR DIAMETER	BAR GRADE	Xd (mi		-
	ELEV	—— E	ELEVATION EACH FACE			STD STL		STANDARD STEEL		(mm)	(MPa)	f 'c = 20.7 MPa (3,000 psi)	f 'c = 27.6 MPa (4,000 psi)	
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		BAR DIAMET (mm)	ER GRADE		0.7 MPa 0 psi)	f'c = 2	27.6 MPa 00 psi)	-		32	275.80	467	405	
		(1111)) (MFa)	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	-		36	413.70 275.80	701 526	607 455	
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			413.70 275.80	684 570	526 438	592 493	455 379	-		hb NOT	GREATER TI	EFULL DEVELOPMENT LI HAN 3db, USE 0.8I hb. UDED IN (a) & (b), USE 1.		
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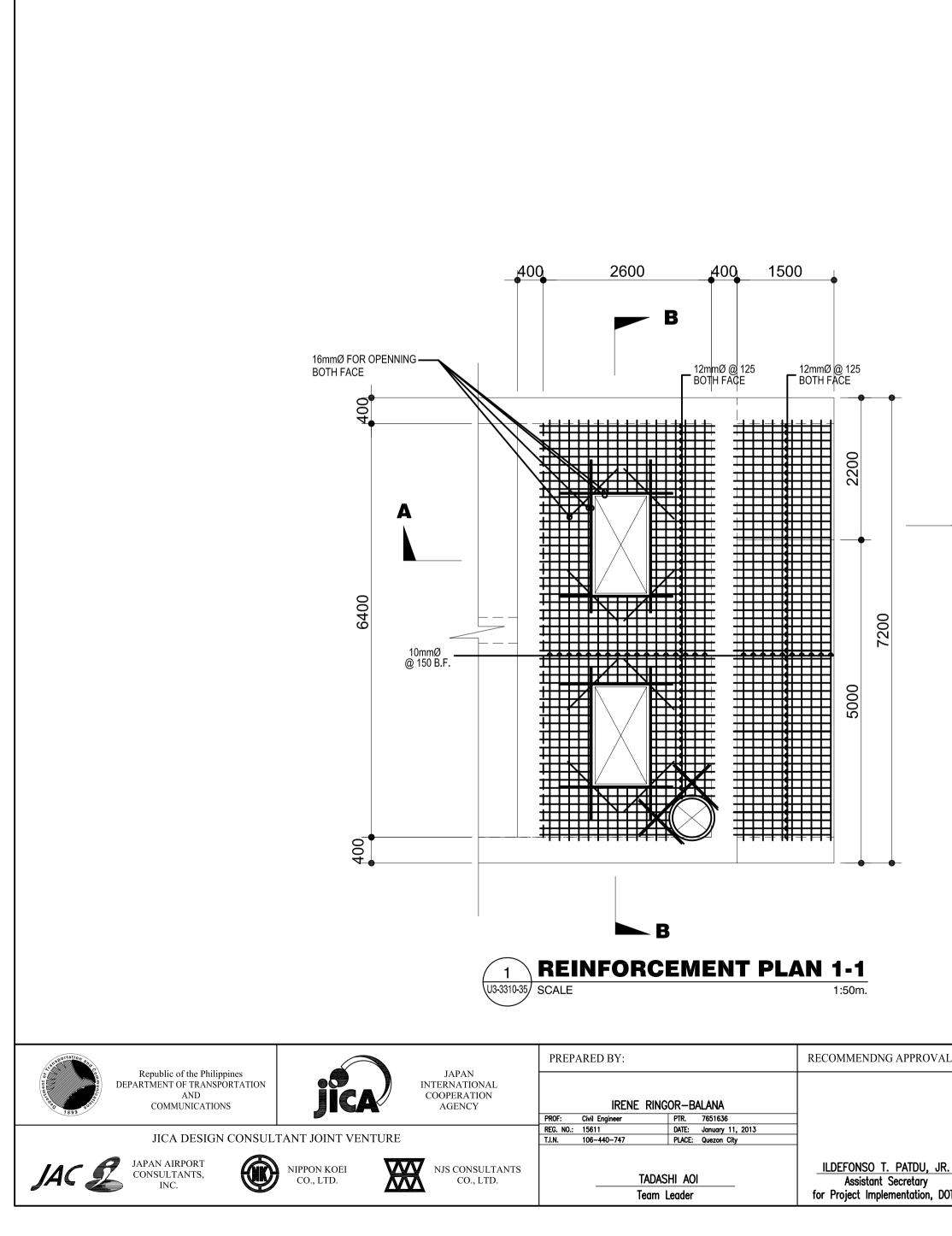
	JULIANITO G. BUCAYAN, JR.	
C	Undersecretary for Project Implementation, DOTC	LOCATION: MUNICIPALITY OF PANGLAO, PROVINCE OF BOHOL, PHILIPPINES

2.5 SPLICES REQUIRED IN THE REINFORCEMENT BEAM/GIRDERS FRAMING INTO COLUMS SHALL

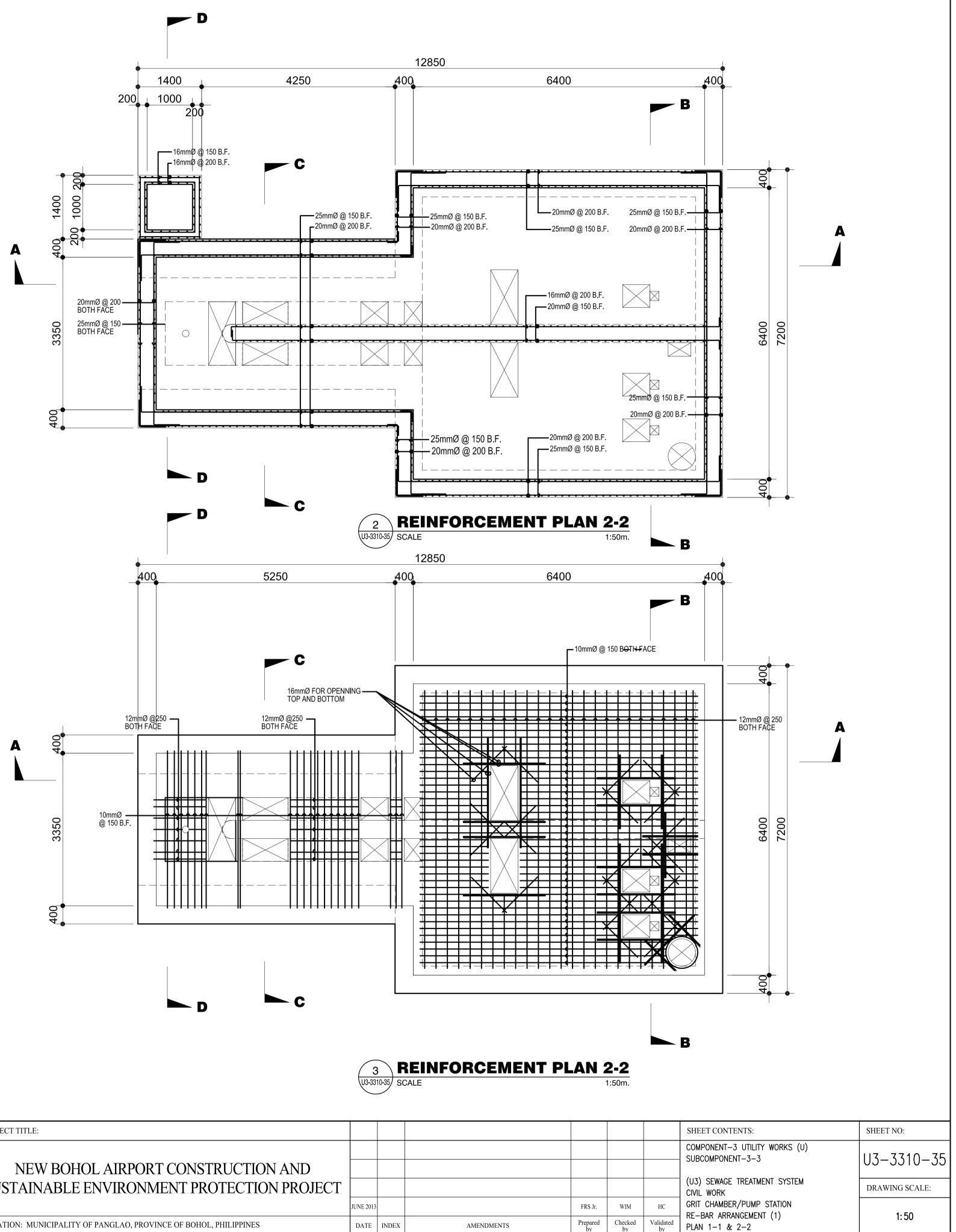
NOT BE LOCATED WITHIN THE COLUMN NOR WITHIN A DISTANCE OF TWICE THE BEAM/GIRDER

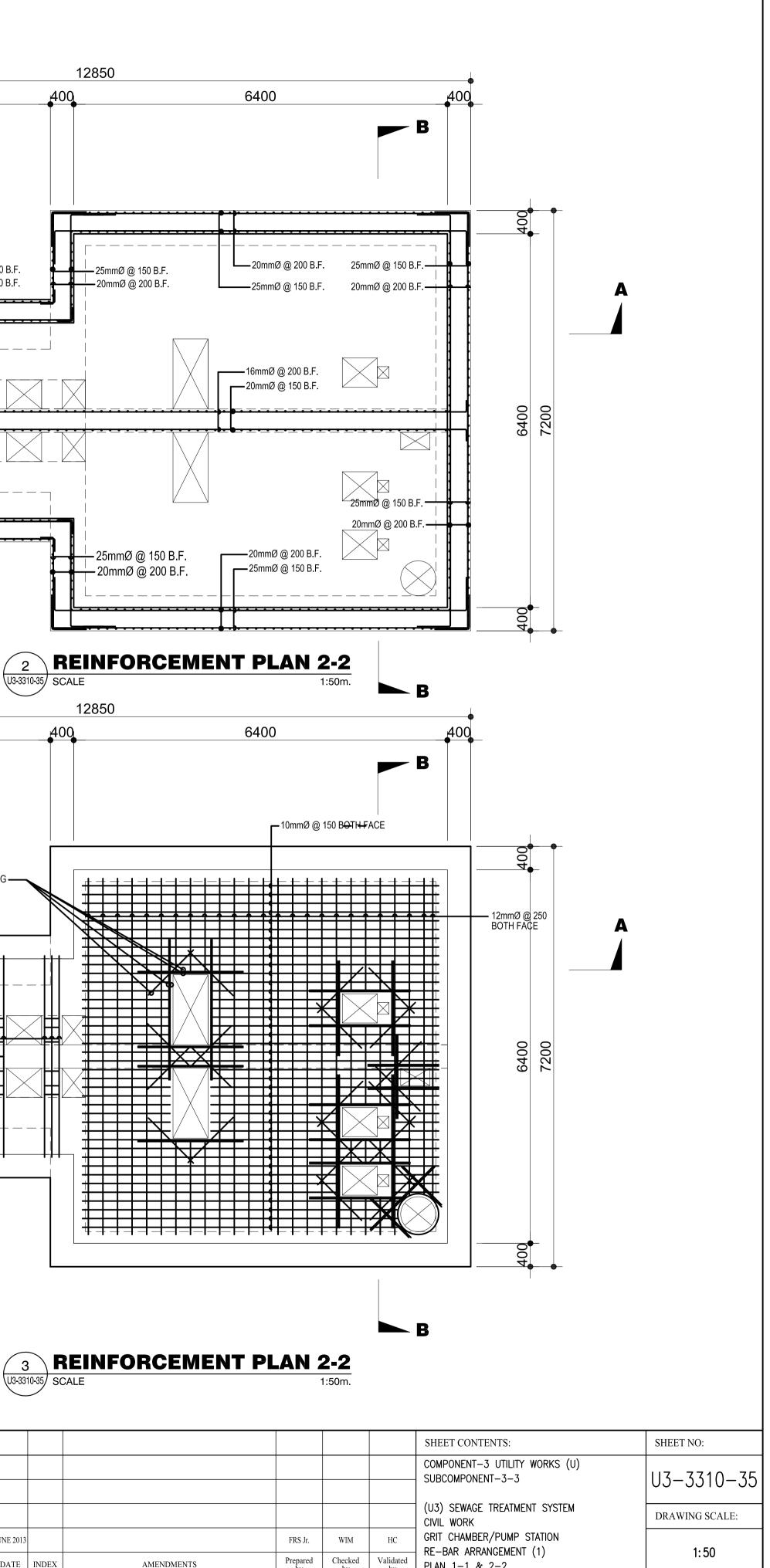
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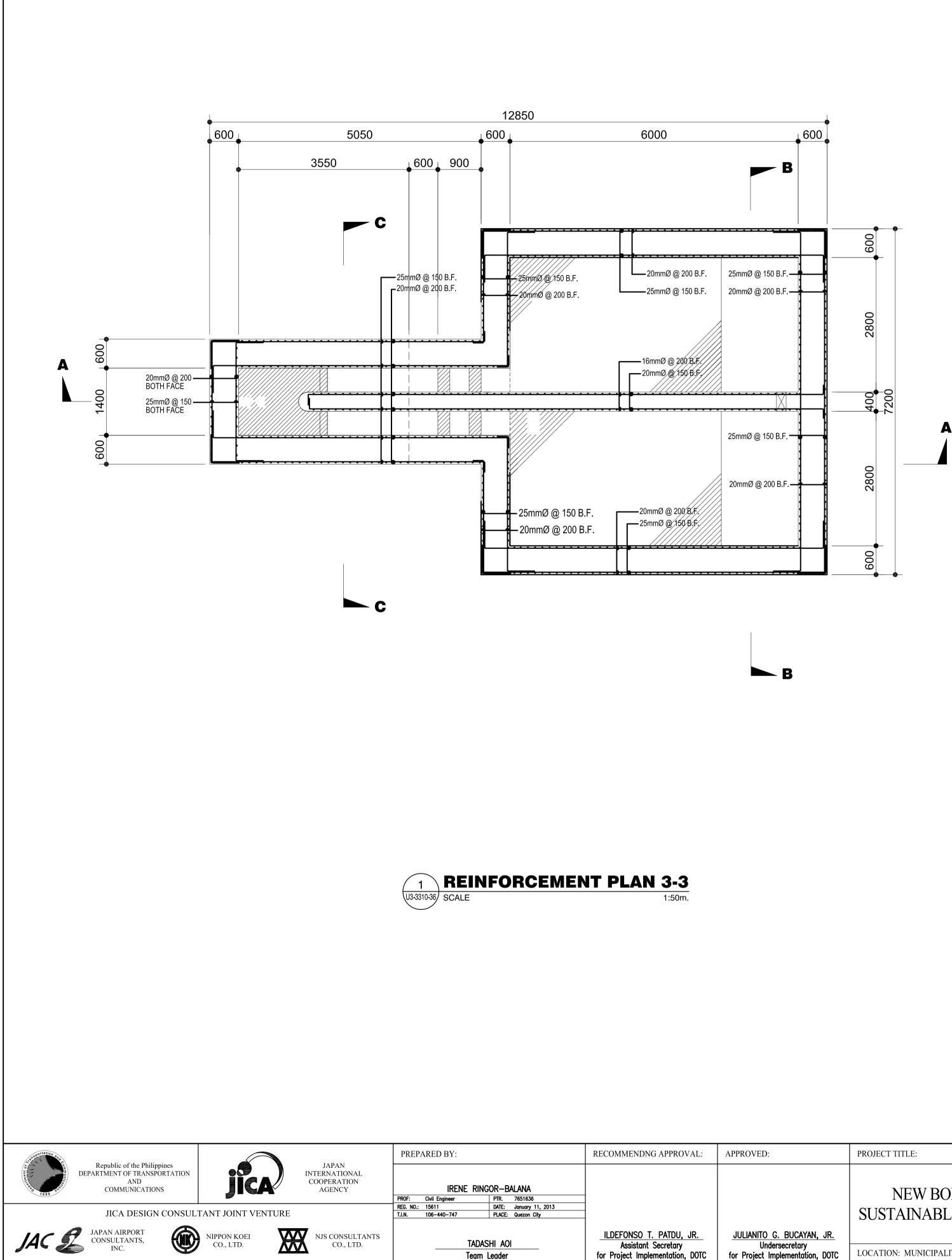


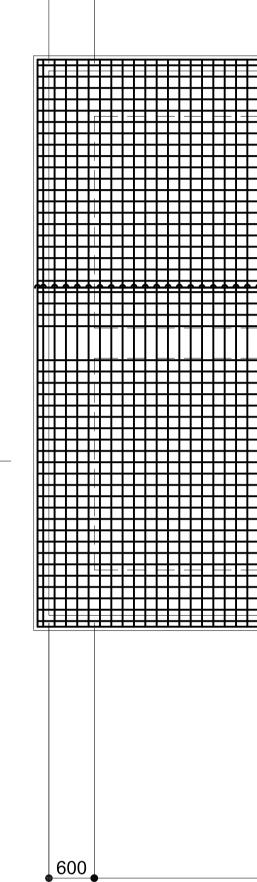
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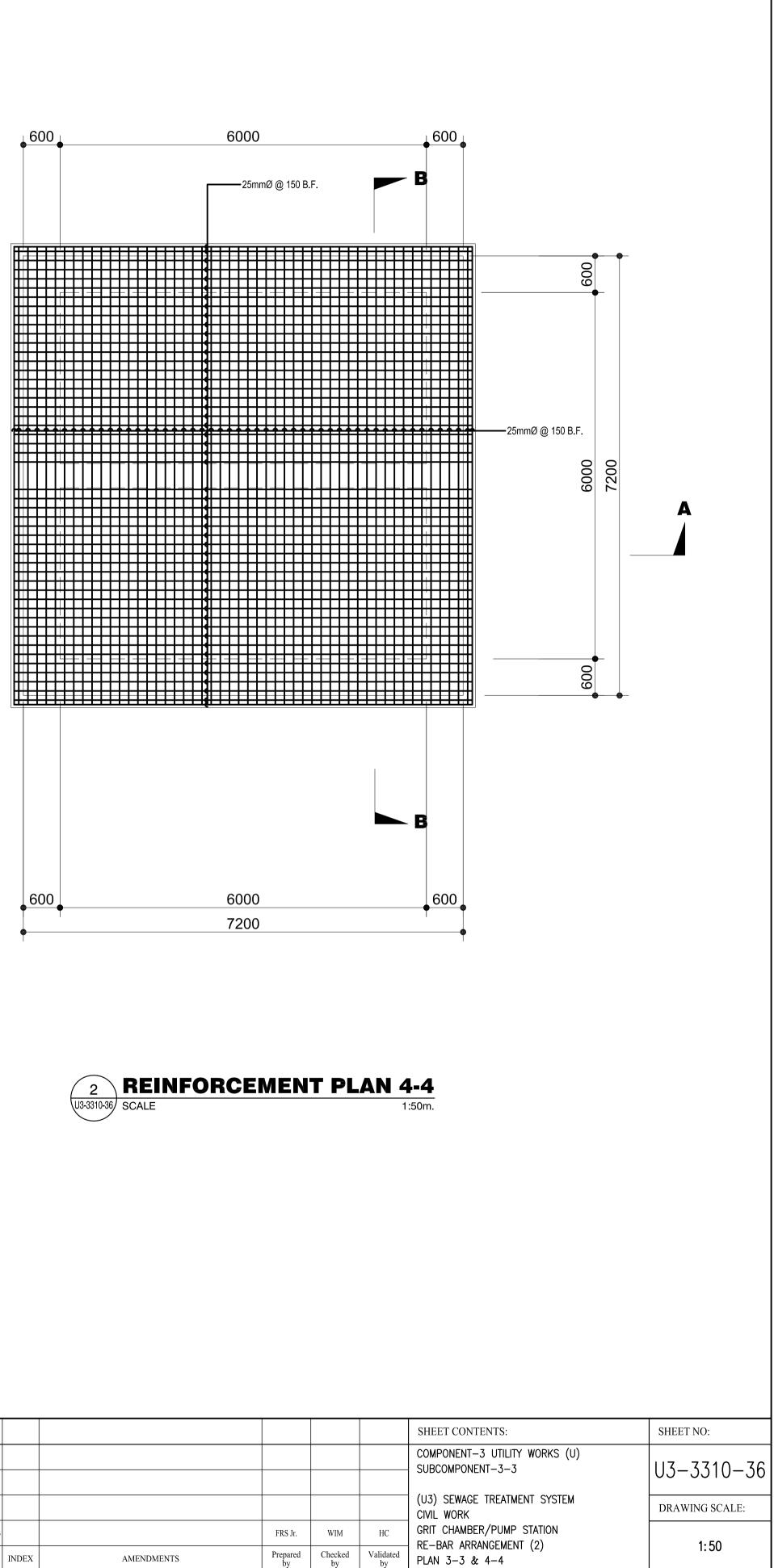




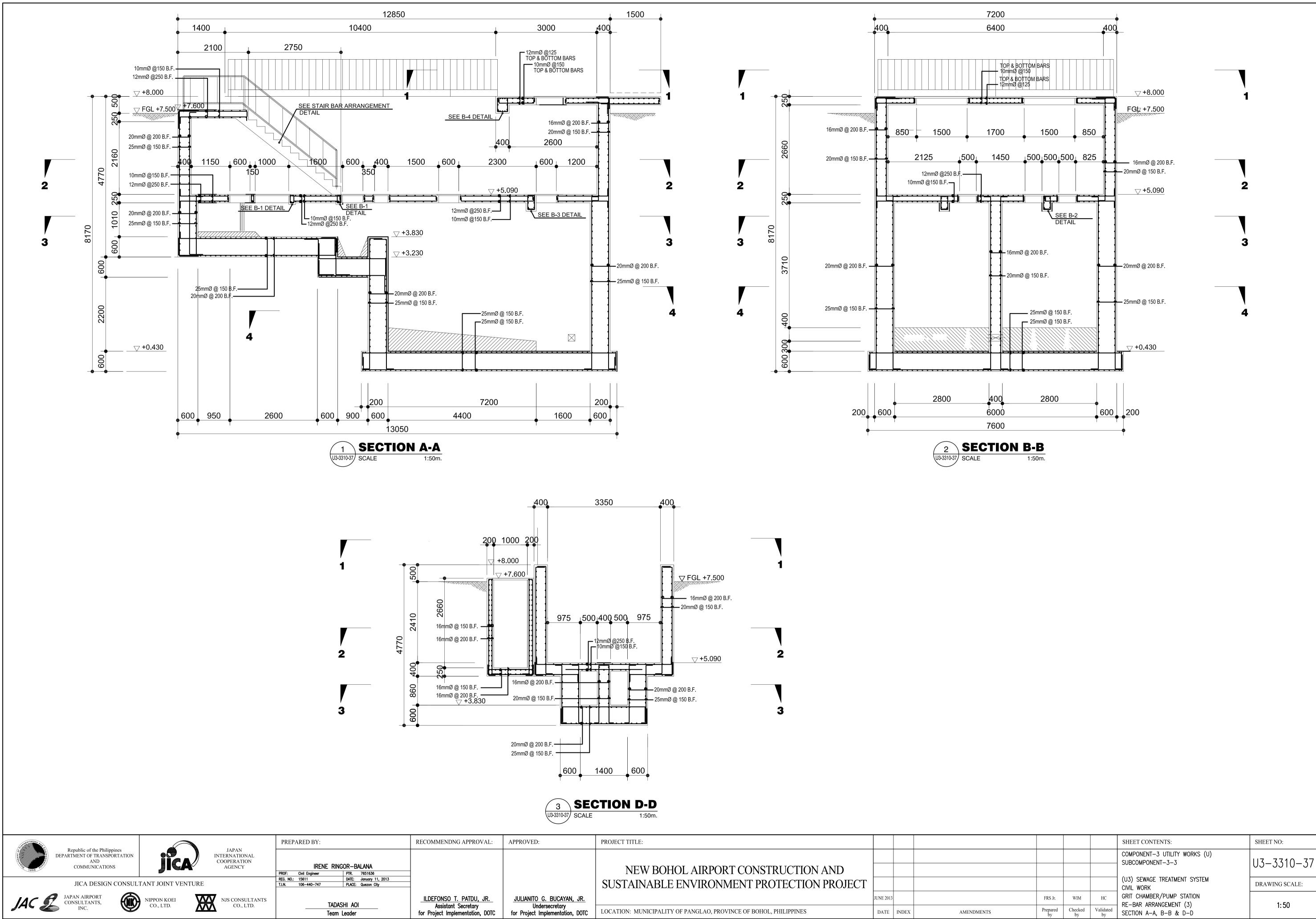
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JR.	JULIANITO G. BUCAYAN, JR.		JUNE 2013		
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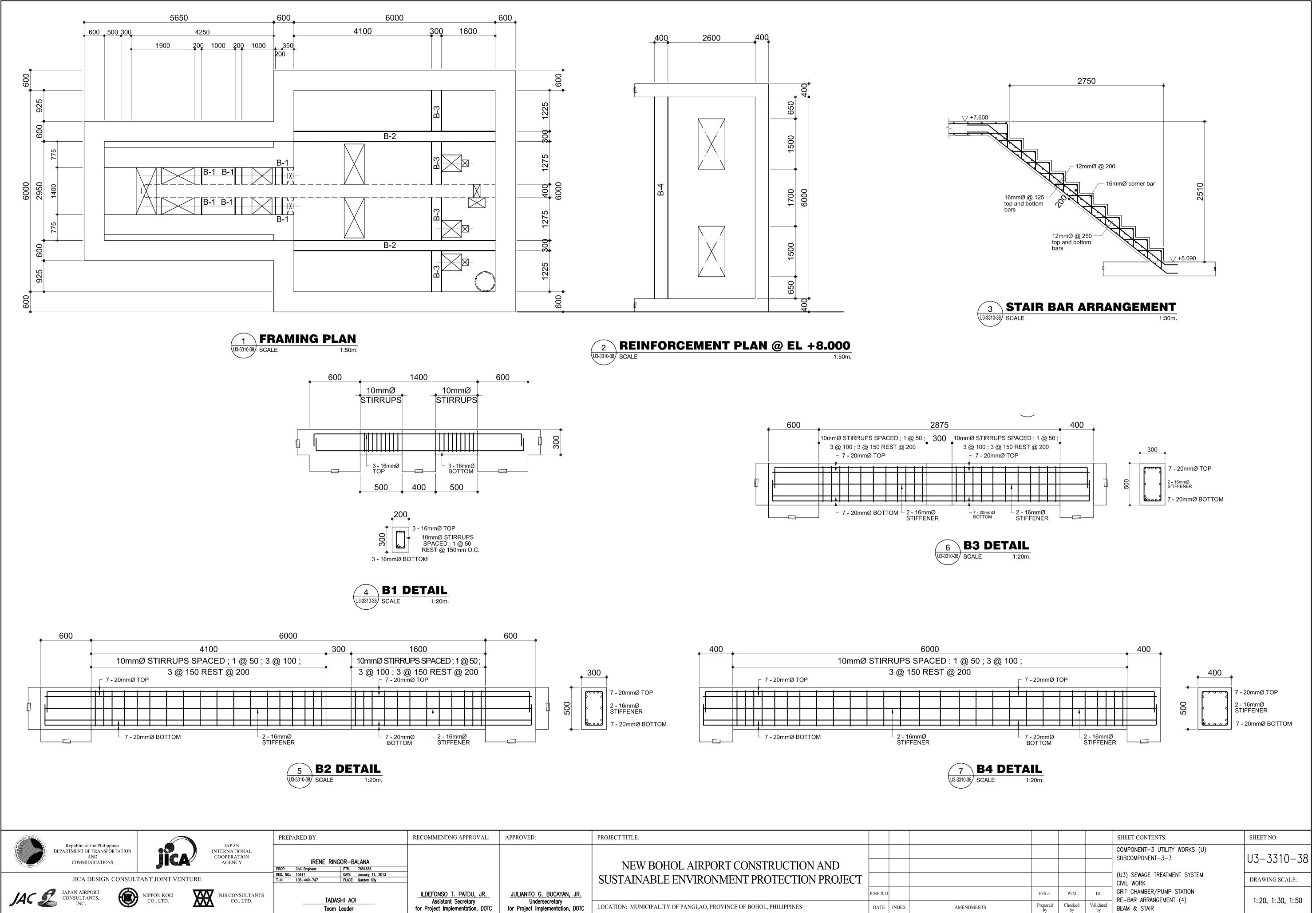




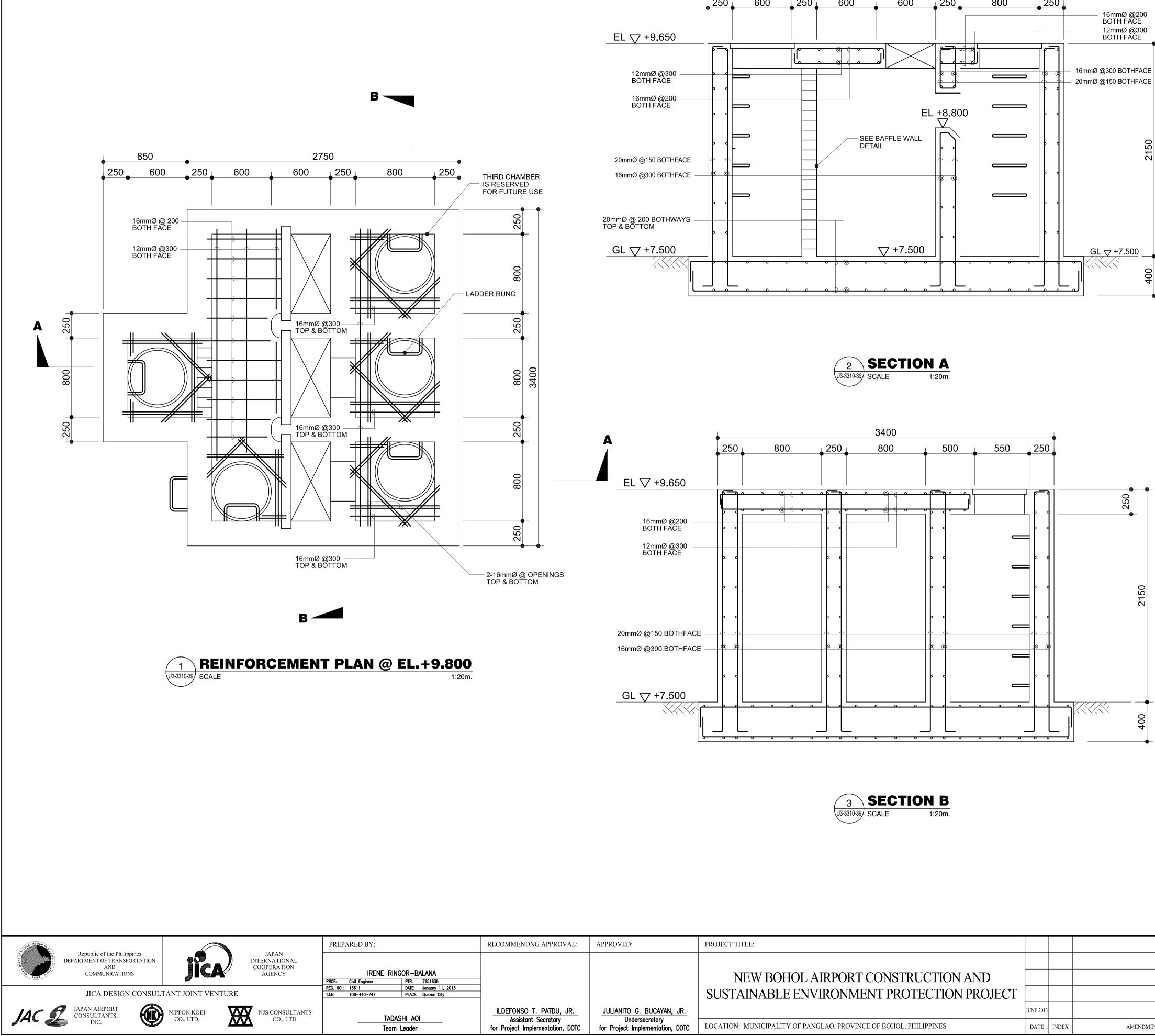
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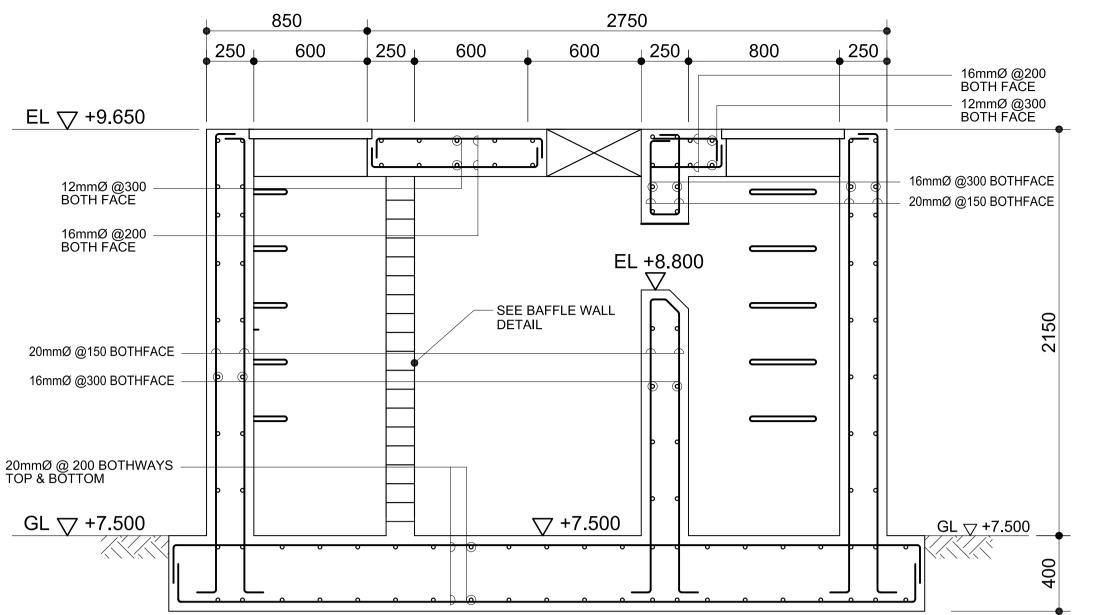


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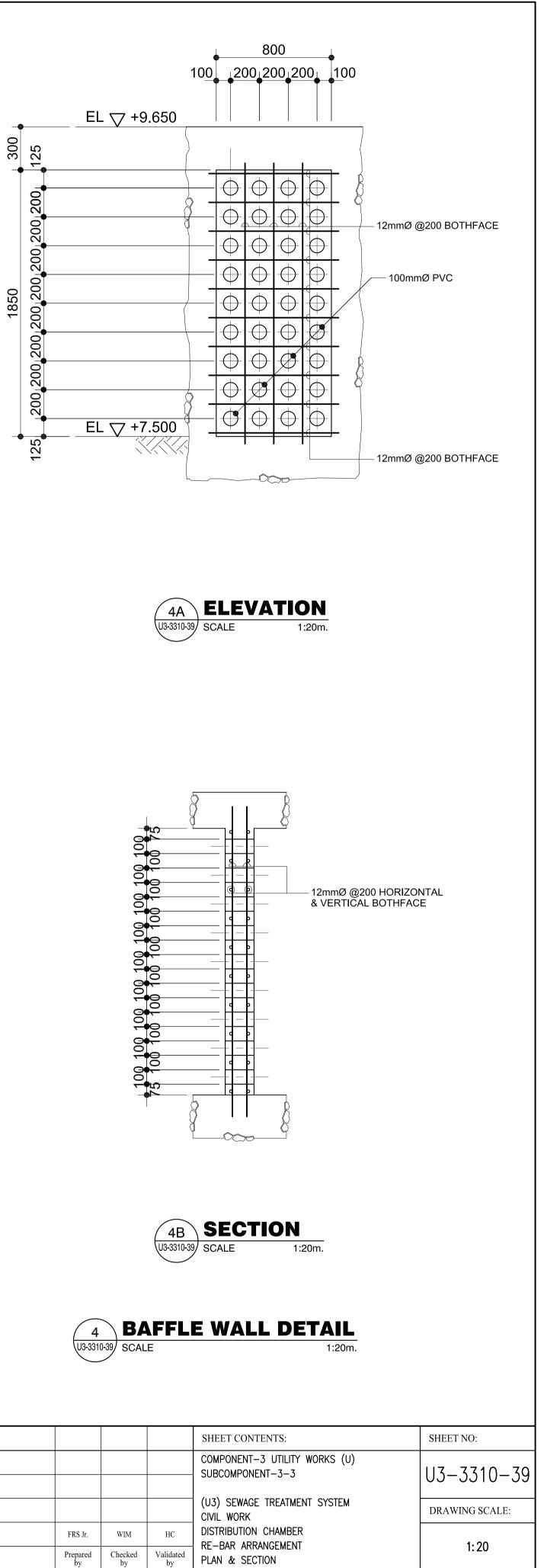
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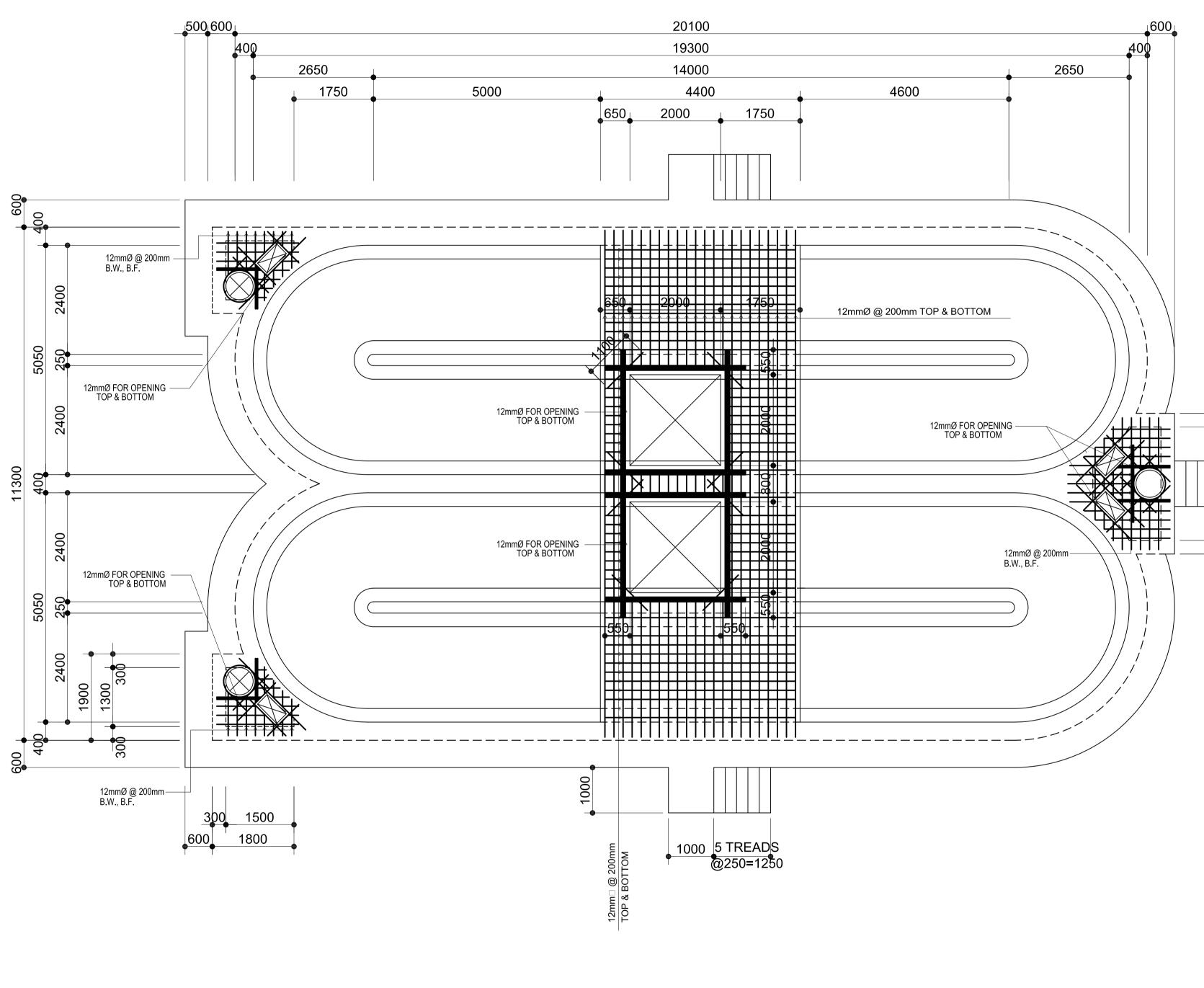


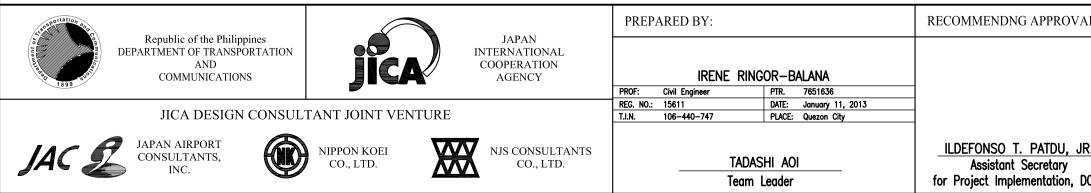




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TC	Undersecretary for Project Implementation, DOTC	LOCATION: MUNICIPALITY OF PANGLAO, PROVINCE OF BOHOL, PHILIPPINES	DATE	INDEX	AMENDMENTS

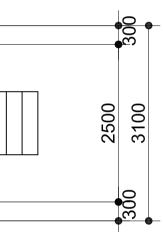




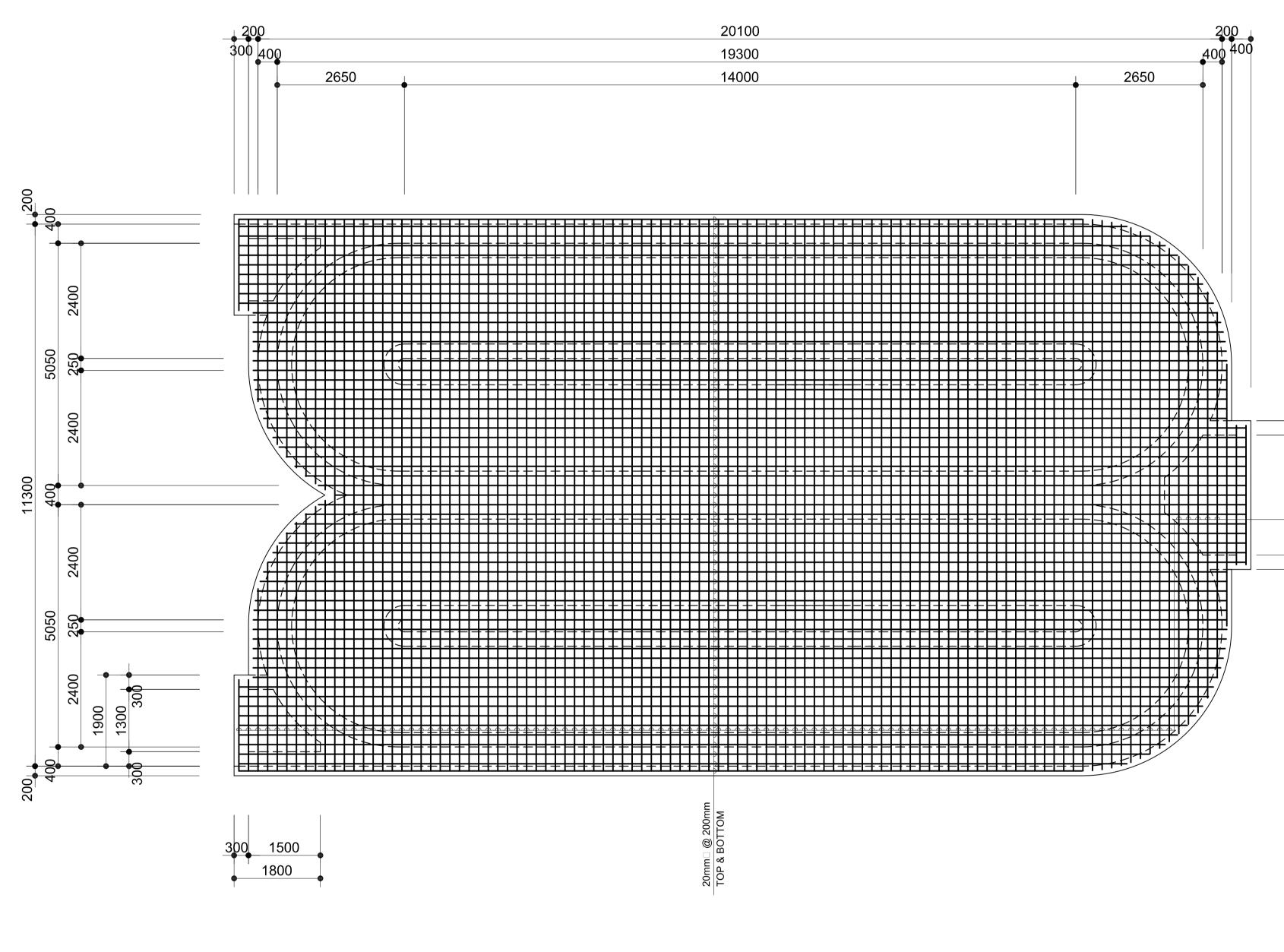


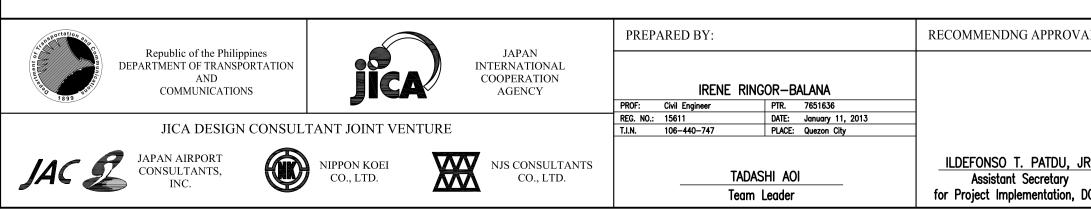


AL:	APPROVED:	PROJECT TITLE:			
		NEW BOHOL AIRPORT CONSTRUCTION AND			
		SUSTAINABLE ENVIRONMENT PROTECTION PROJECT			
R	JULIANITO G. BUCAYAN, JR.		JUNE 2013		
OOTC	Undersecretary for Project Implementation, DOTC	LOCATION: MUNICIPALITY OF PANGLAO, PROVINCE OF BOHOL, PHILIPPINES	DATE	INDEX	AMENDMENTS



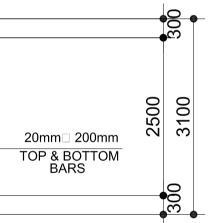
			SHEET CONTENTS:	SHEET NO:
			COMPONENT-3 UTILITY WORKS (U) SUBCOMPONENT-3-3	U3-3310-40
			(U3) SEWAGE TREATMENT SYSTEM CIVIL WORK	DRAWING SCALE:
FRS Jr.	WIM	НС	OXIDATION DITCH RE—BAR ARRANGEMENT (1)	1:60
Prepared by	Checked by	Validated by	PLAN & SECTION	1:60



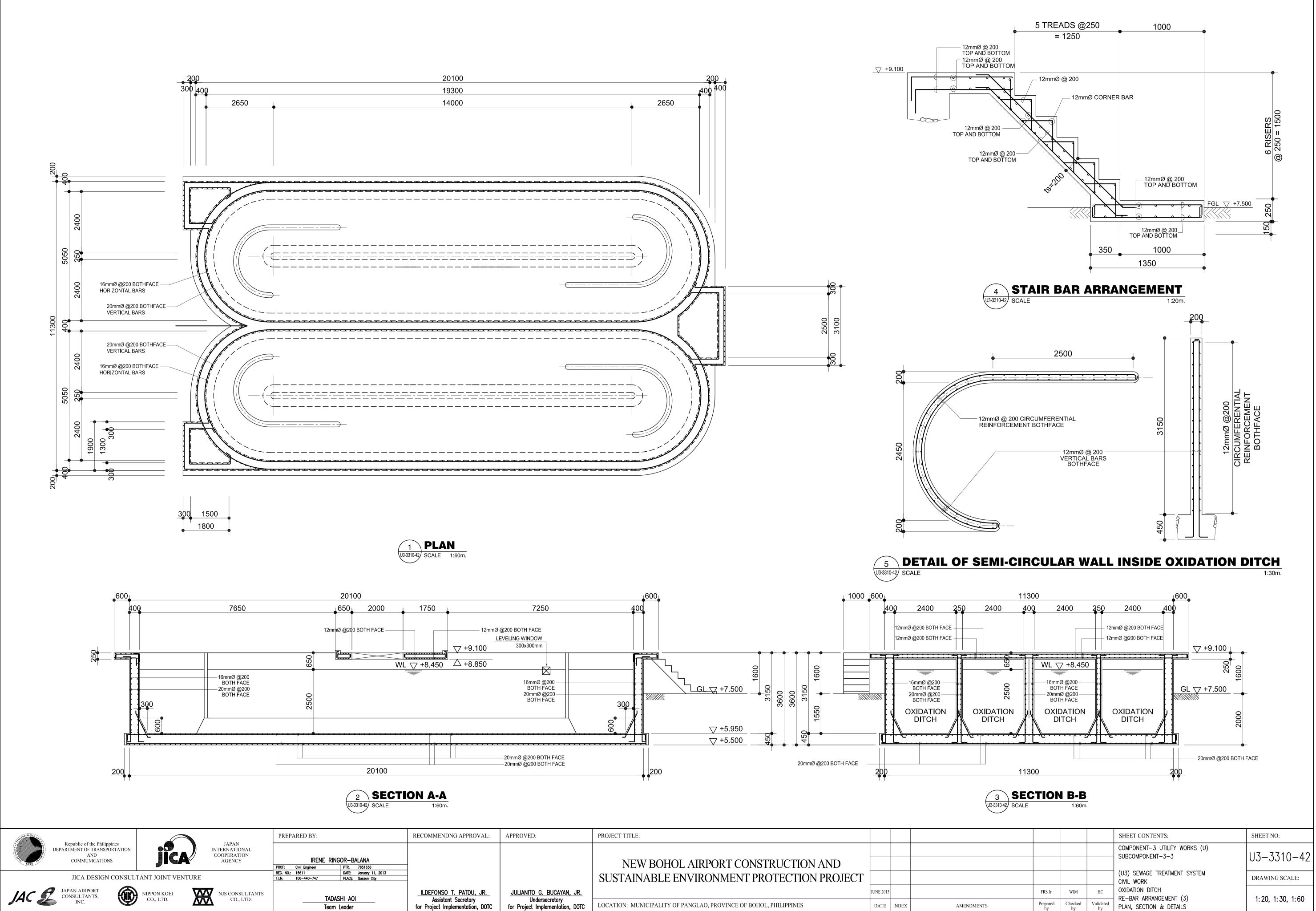




AL:	APPROVED:	PROJECT TITLE:			
		NEW BOHOL AIRPORT CONSTRUCTION AND			
		SUSTAINABLE ENVIRONMENT PROTECTION PROJECT			
<u>२.</u>	JULIANITO G. BUCAYAN, JR.		JUNE 2013		
OTC	Undersecretary for Project Implementation, DOTC	LOCATION: MUNICIPALITY OF PANGLAO, PROVINCE OF BOHOL, PHILIPPINES	DATE	INDEX	AMENDMENTS

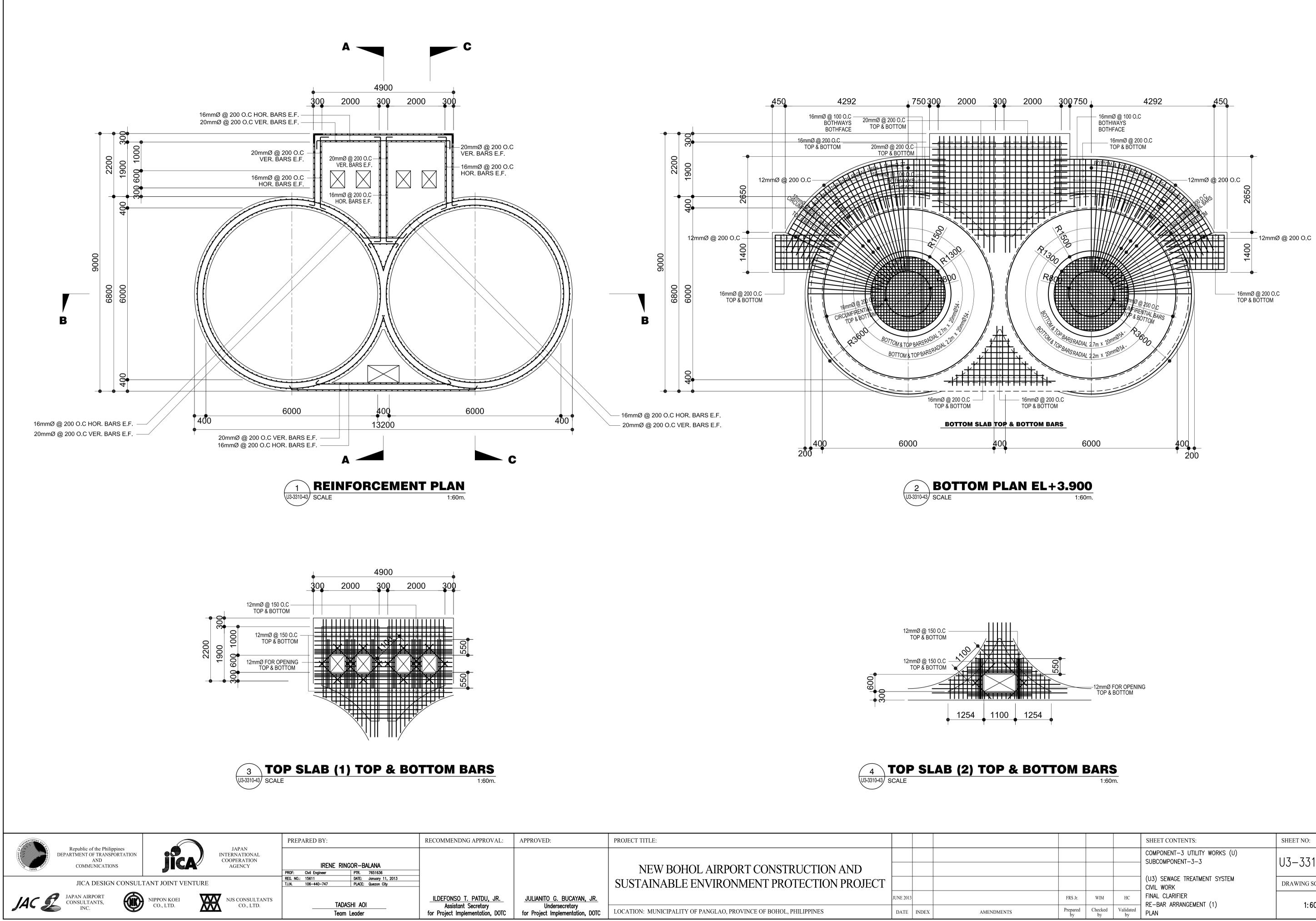


			SHEET CONTENTS:	SHEET NO:
			COMPONENT-3 UTILITY WORKS (U) SUBCOMPONENT-3-3	U3-3310-41
			(U3) SEWAGE TREATMENT SYSTEM CIVIL WORK	DRAWING SCALE:
FRS Jr.	WIM	НС	OXIDATION DITCH RE–BAR ARRANGEMENT (2)	1.60
Prepared by	Checked by	Validated by	PLAN & SECTION	1:60



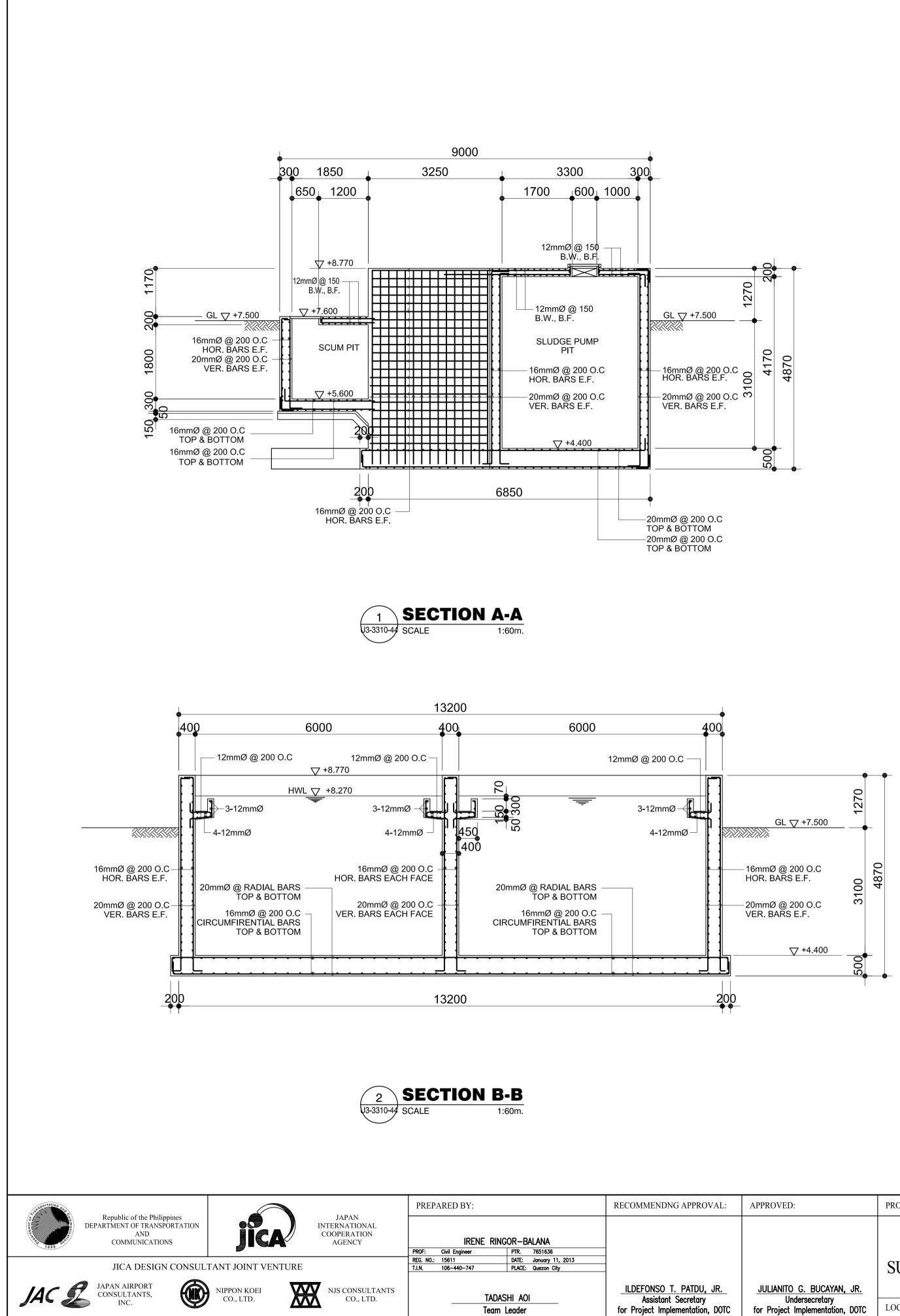
U, JR	<u>JULIANITO G. BUCAYAN, JR.</u>		JUNE 2013	
iry ion, DOTC	Undersecretary for Project Implementation, DOTC	LOCATION: MUNICIPALITY OF PANGLAO, PROVINCE OF BOHOL, PHILIPPINES	DATE	INDE

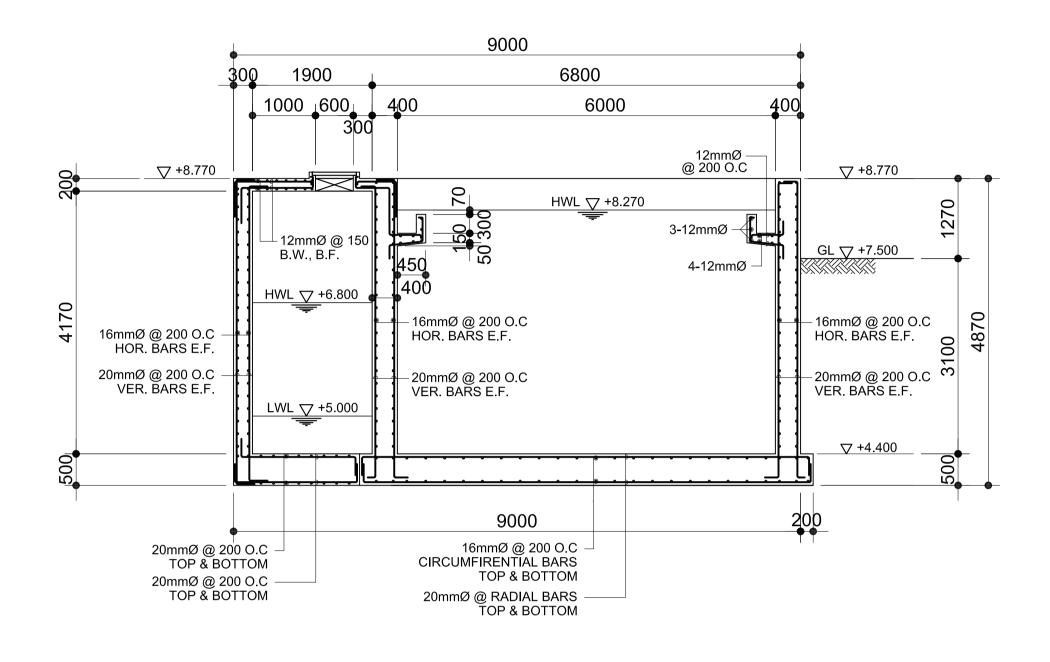
AMENDMENTS



L:	APPROVED:	PROJECT TITLE:			
		NEW BOHOL AIRPORT CONSTRUCTION AND			
		SUSTAINABLE ENVIRONMENT PROTECTION PROJECT			
₹	JULIANITO G. BUCAYAN, JR.		JUNE 2013		
отс	Undersecretary for Project Implementation, DOTC	LOCATION: MUNICIPALITY OF PANGLAO, PROVINCE OF BOHOL, PHILIPPINES	DATE	INDEX	AMENDMENTS

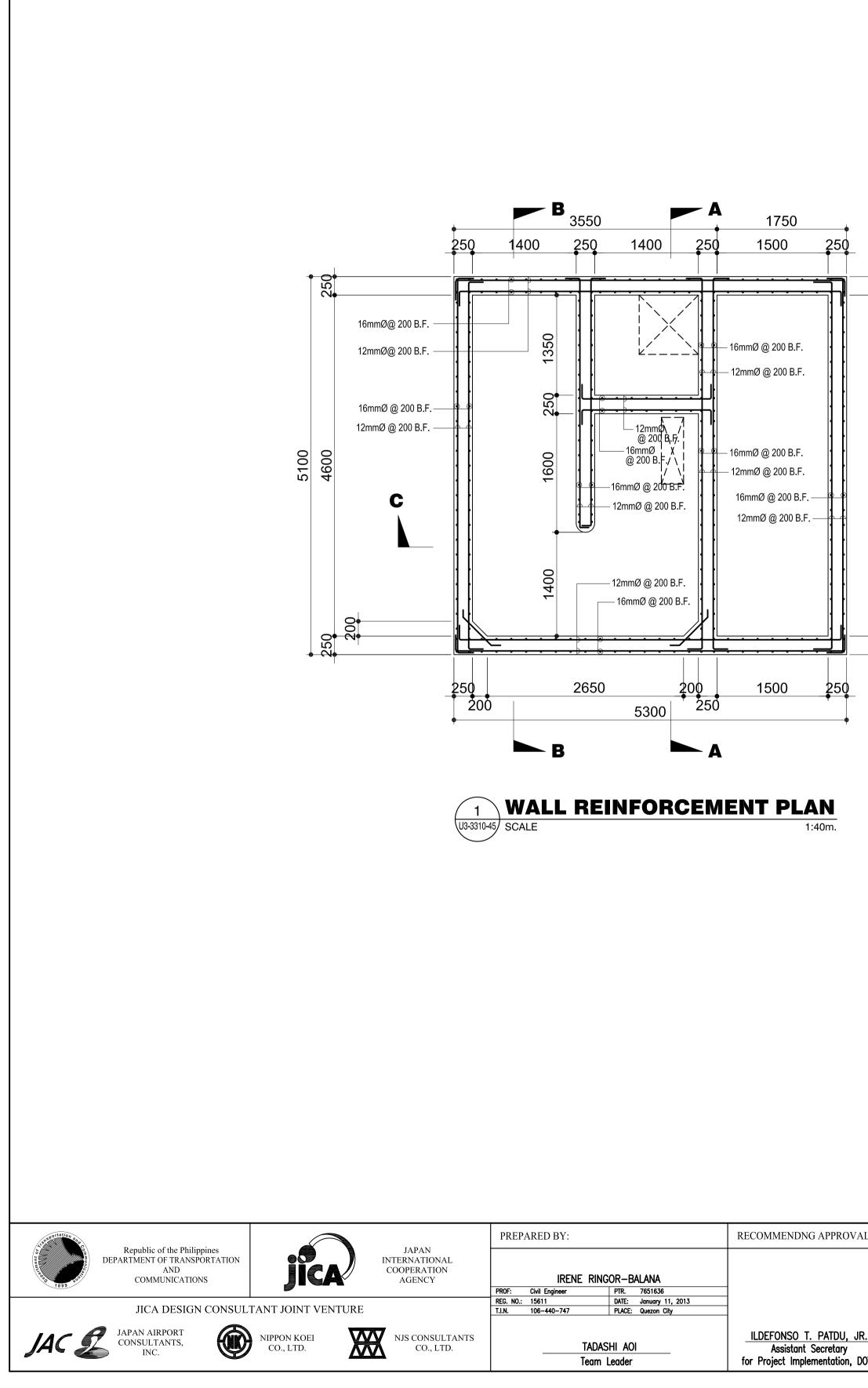
			SHEET CONTENTS:	SHEET NO:
			COMPONENT-3 UTILITY WORKS (U) SUBCOMPONENT-3-3	U3-3310-43
			(U3) SEWAGE TREATMENT SYSTEM CIVIL WORK	DRAWING SCALE:
FRS Jr.	WIM	НС	FINAL CLARIFIER RE–BAR ARRANGEMENT (1)	1.60
Prepared by	Checked by	Validated by	PLAN	1:60

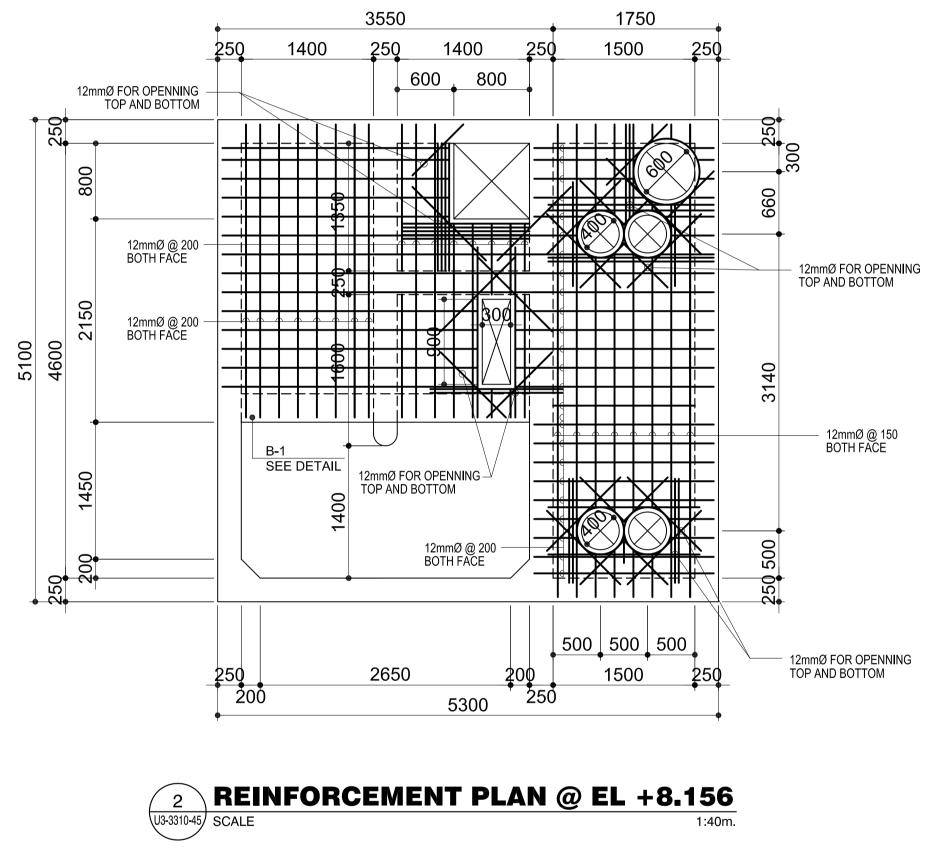




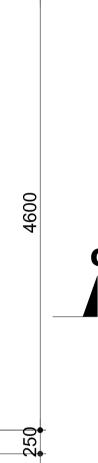
3 SECTION C-C U3-3310-44 SCALE 1:60m.

OVAL:	APPROVED:	PROJECT TITLE:						SHEET CONTENTS:	SHEET NO:
		NEW BOHOL AIRPORT CONSTRUCTION AND SUSTAINABLE ENVIRONMENT PROTECTION PROJECT						COMPONENT-3 UTILITY WORKS (U) SUBCOMPONENT-3-3 (U3) SEWAGE TREATMENT SYSTEM CIVIL WORK	U3–3310–44 Drawing scale:
<u>, JR.</u> , n, DOTC	JULIANITO G. BUCAYAN, JR. Undersecretary for Project Implementation, DOTC	LOCATION: MUNICIPALITY OF PANGLAO, PROVINCE OF BOHOL, PHILIPPINES	JUNE 2013 DATE INDEX	AMENDMENTS	S Jr. pared	WIM Checked by	HC Validated by	FINAL CLARIFIER RE—BAR ARRANGEMENT (2) SECTION	1:60

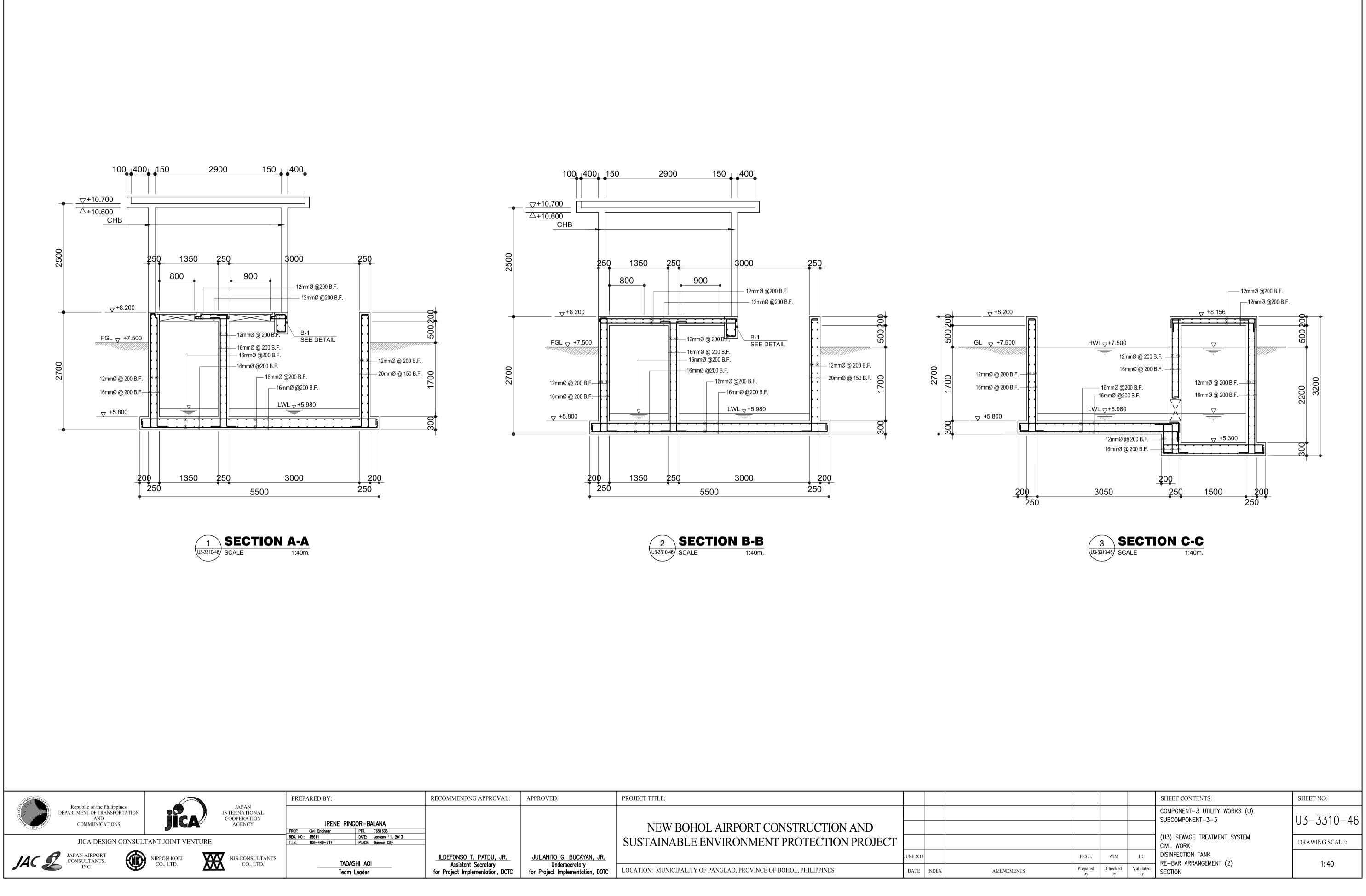




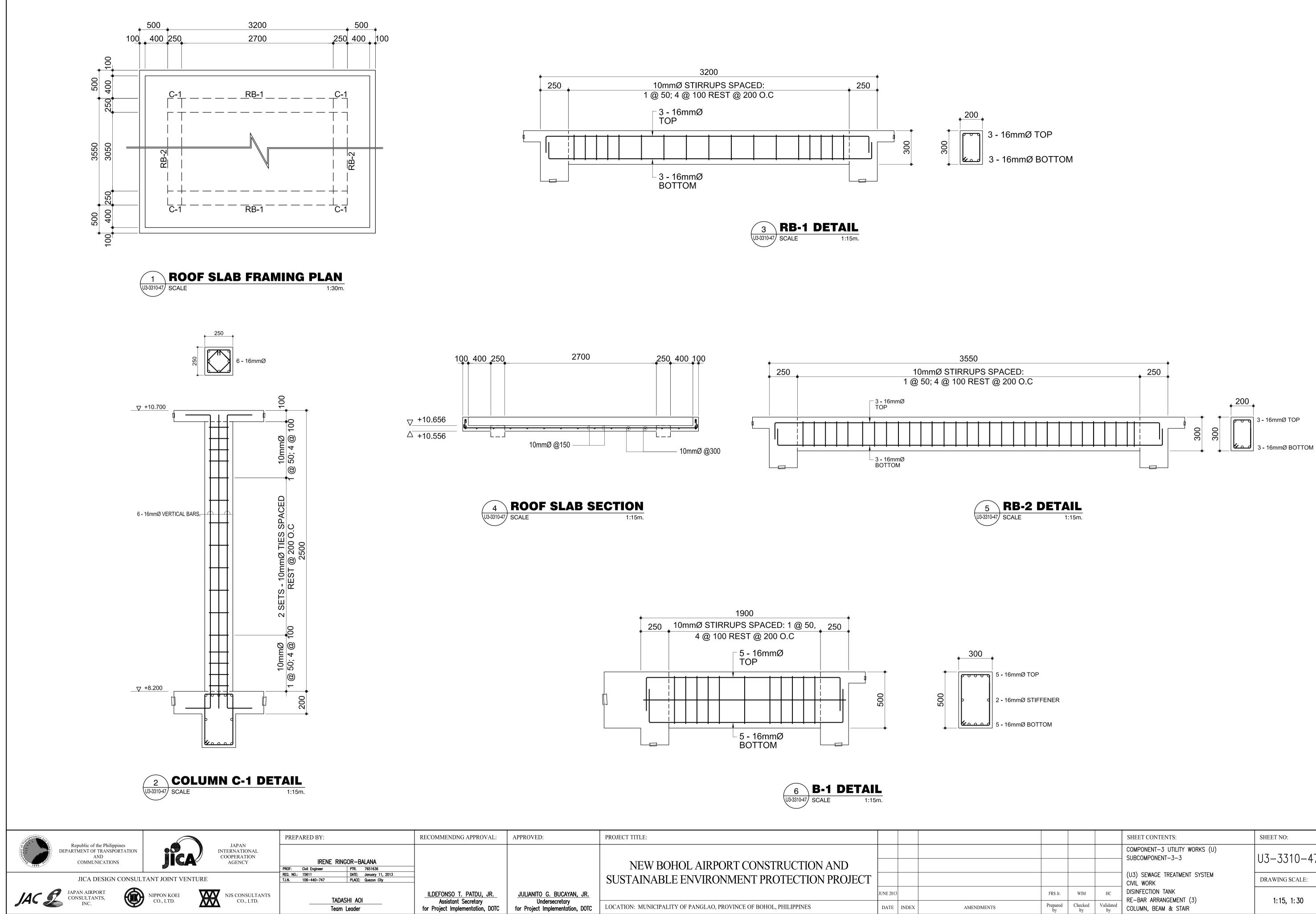
WAL:	APPROVED:	PROJECT TITLE:						SHEET CONTENTS:	SHEET NO:
		NEW BOHOL AIRPORT CONSTRUCTION AND							U3-3310-45
		SUSTAINABLE ENVIRONMENT PROTECTION PROJECT						(U3) SEWAGE TREATMENT SYSTEM CIVIL WORK	DRAWING SCALE:
JR.	JULIANITO G. BUCAYAN, JR.		JUNE 2013		FRS Jr.	WIM		DISINFECTION TANK RE-BAR ARRANGEMENT (1)	1:40
n, DOTC	Undersecretary for Project Implementation, DOTC	LOCATION: MUNICIPALITY OF PANGLAO, PROVINCE OF BOHOL, PHILIPPINES	DATE	INDEX	AMENDMENTS Prepared by	Checked by	Validated by	PLAN	1:40



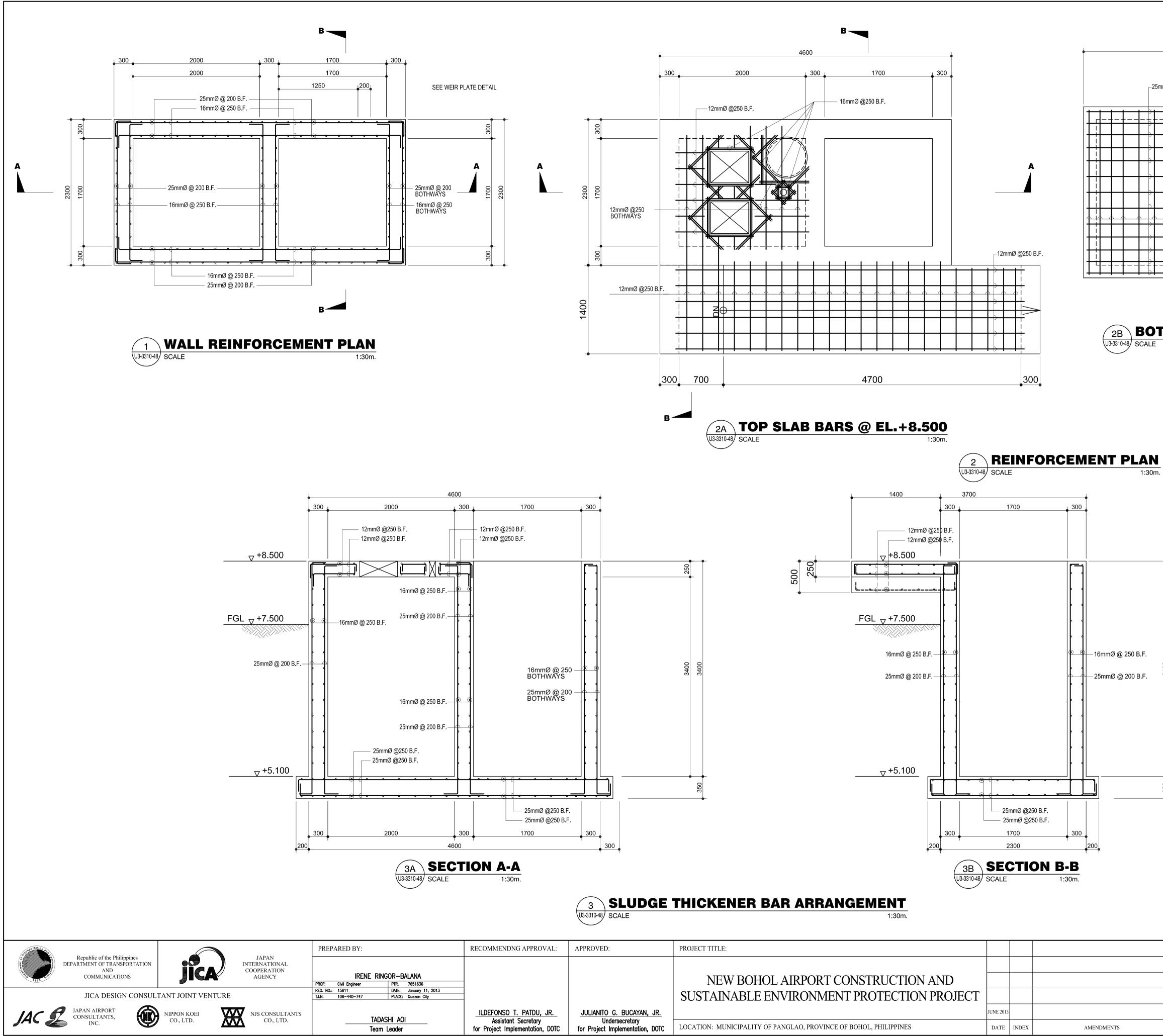
-8.	1	56
		1:40m.



VAL:	APPROVED:	PROJECT TITLE:		
		NEW BOHOL AIRPORT CONSTRUCTION AND		
		SUSTAINABLE ENVIRONMENT PROTECTION PROJECT		
JR.	JULIANITO G. BUCAYAN, JR.		JUNE 2013	
DOTC	Undersecretary for Project Implementation, DOTC	LOCATION: MUNICIPALITY OF PANGLAO, PROVINCE OF BOHOL, PHILIPPINES	DATE INDEX	AMENDMENTS



WAL:	APPROVED:	PROJECT TITLE:						SHEET CONTENTS:	SHEET NO:
		NEW BOHOL AIRPORT CONSTRUCTION AND							U3-3310-47
		SUSTAINABLE ENVIRONMENT PROTECTION PROJECT						(U3) SEWAGE TREATMENT SYSTEM CIVIL WORK	DRAWING SCALE:
, JR	JULIANITO G. BUCAYAN, JR.		JUNE 2013		FRS Jr.	WIM	НС	DISINFECTION TANK RE-BAR ARRANGEMENT (3)	1:15, 1:30
n, DOTC	Undersecretary for Project Implementation, DOTC	LOCATION: MUNICIPALITY OF PANGLAO, PROVINCE OF BOHOL, PHILIPPINES	DATE IN	NDEX	AMENDMENTS Prepared by	Checked by	Validated by	COLUMN, BEAM & STAIR	1:15, 1:50

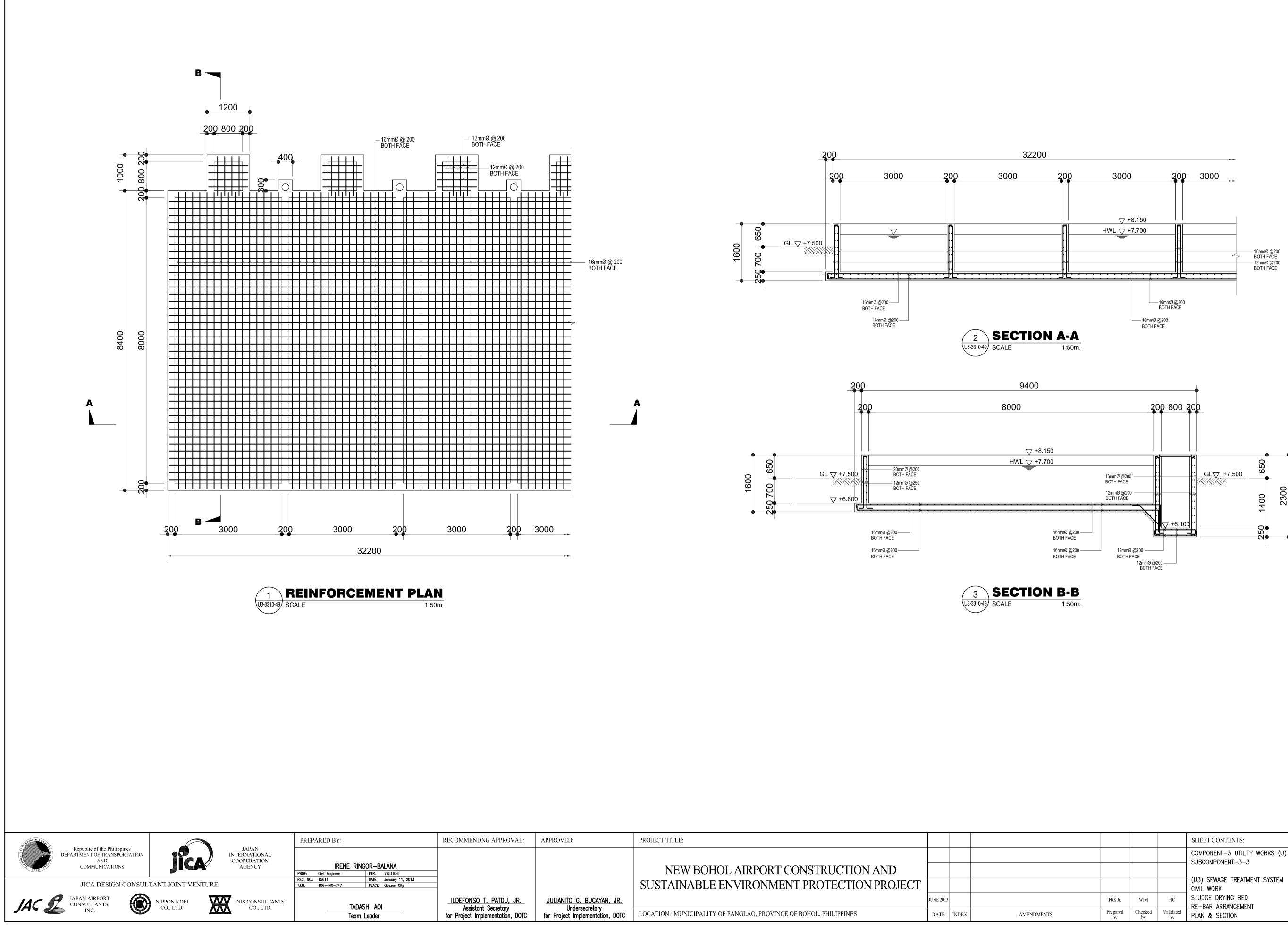


L:	APPROVED:	PROJECT TITLE:			
		NEW BOHOL AIRPORT CONSTRUCTION AND			
		SUSTAINABLE ENVIRONMENT PROTECTION PROJECT			
<u>२.</u>	JULIANITO G. BUCAYAN, JR.		JUNE 2013		
OTC	Undersecretary for Project Implementation, DOTC	LOCATION: MUNICIPALITY OF PANGLAO, PROVINCE OF BOHOL, PHILIPPINES	DATE	INDEX	AMENDMENTS

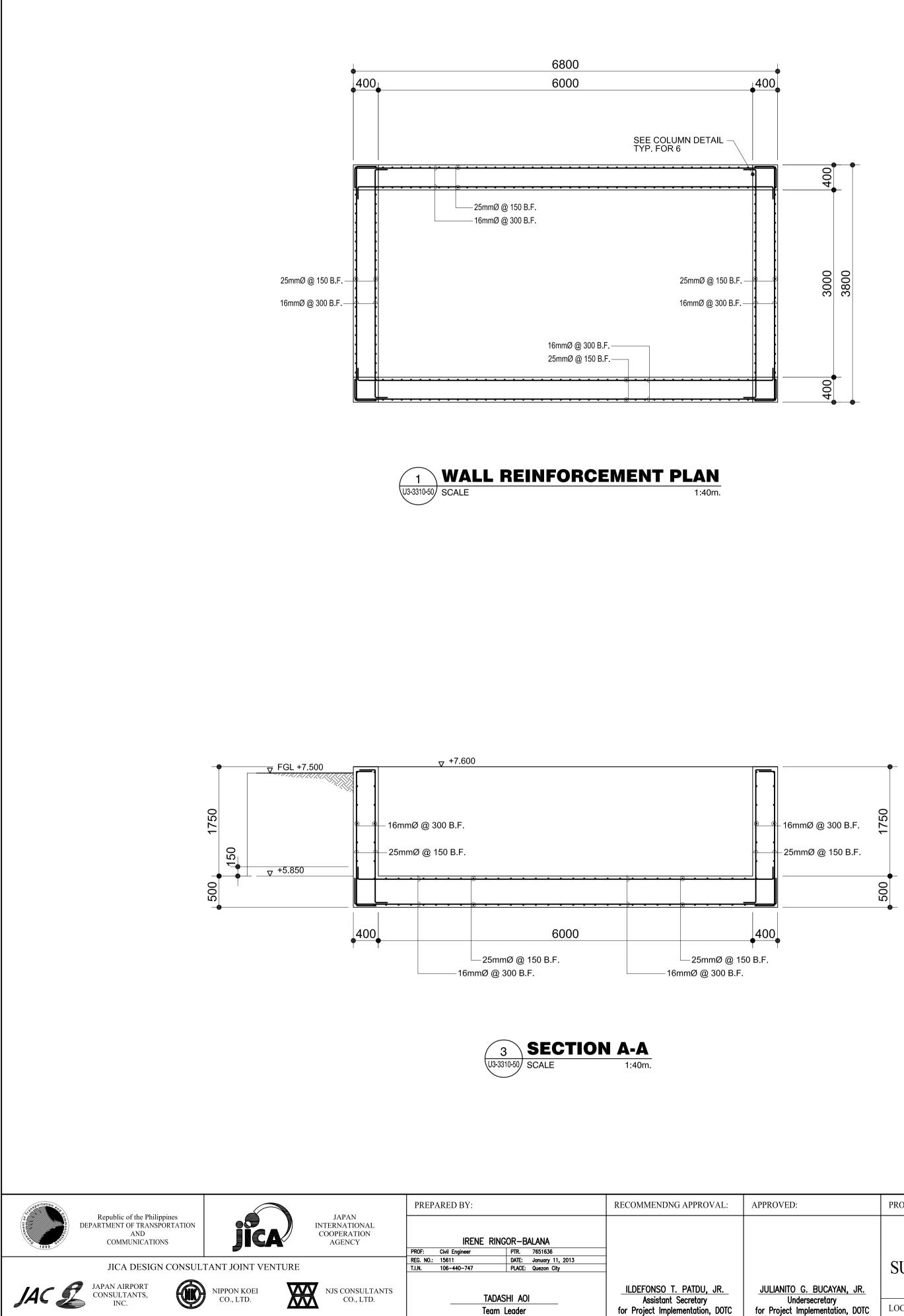
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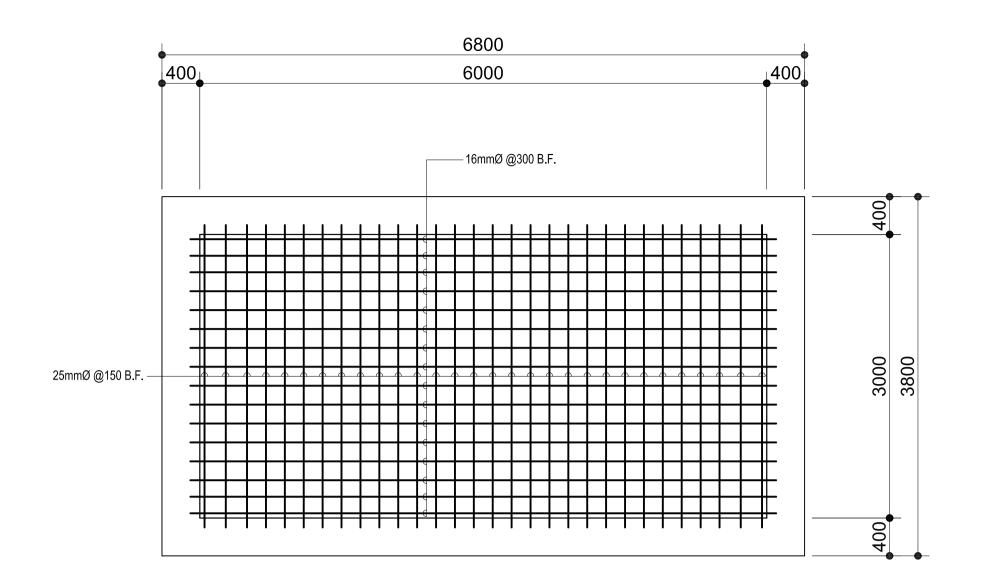
2B BOTTOM SLAB BARS @ EL.+5.100 U3-3310-48 SCALE 1:30m

			SHEET CONTENTS:	SHEET NO:
			COMPONENT-3 UTILITY WORKS (U) SUBCOMPONENT-3-3	U3-3310-48
			(U3) SEWAGE TREATMENT SYSTEM CIVIL WORK	DRAWING SCALE:
FRS Jr.	WIM	НС	SLUDGE THICKENER RE-BAR ARRANGEMENT	1. 70
Prepared by	Checked by	Validated by	PLAN & SECTION	1: 30

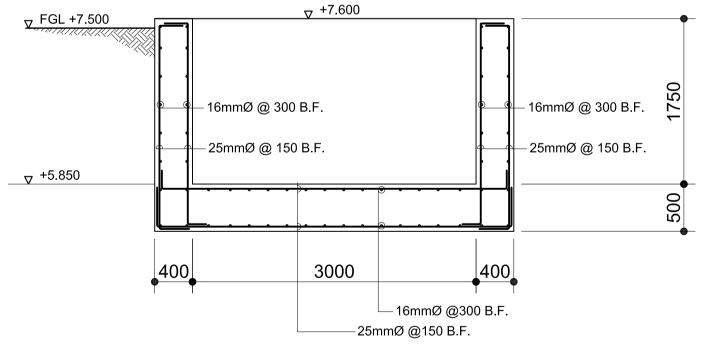


VAL:	APPROVED:	PROJECT TITLE:							SHEET CONTENTS:	SHEET NO:
		NEW BOHOL AIRPORT CONSTRUCTION AND							COMPONENT-3 UTILITY WORKS (U) SUBCOMPONENT-3-3	U3-3310-49
		SUSTAINABLE ENVIRONMENT PROTECTION PROJECT							(U3) SEWAGE TREATMENT SYSTEM CIVIL WORK	DRAWING SCALE:
JR.	JULIANITO G. BUCAYAN, JR.		JUNE 2013		FRS Jr.	·.	WIM	HC	SLUDGE DRYING BED RE–BAR ARRANGEMENT	1:50
, DOTC	Undersecretary for Project Implementation, DOTC	LOCATION: MUNICIPALITY OF PANGLAO, PROVINCE OF BOHOL, PHILIPPINES	DATE	INDEX	AMENDMENTS Prepared by	ed C	Thecked by	Validated by	PLAN & SECTION	1.50











WAL:	APPROVED:	PROJECT TITLE:							SHEET CONTENTS:	SHEET NO:
		NEW BOHOL AIRPORT CONSTRUCTION AND SUSTAINABLE ENVIRONMENT PROTECTION PROJECT							COMPONENT-3 UTILITY WORKS (U) SUBCOMPONENT-3-3 (U3) SEWAGE TREATMENT SYSTEM CIVIL WORK	U3-3310-50 DRAWING SCALE:
JR. , DOTC	<u>JULIANITO G. BUCAYAN, JR.</u> Undersecretary for Project Implementation, DOTC	LOCATION: MUNICIPALITY OF PANGLAO, PROVINCE OF BOHOL, PHILIPPINES	JUNE 2013 DATE	FX	AMENDMENTS	FRS Jr. Prepared	WIM Checked	HC Validated	MECHANICAL PIT – RE–BAR ARRANGEMENT PLAN & SECTION	1: 40
,	ior rroject implementation, DOTC		DATE			by	by	by		

