



**ISLAMIC REPUBLIC OF AFGHANISTAN
NATIONAL WATER AFFAIRS REGULATION AUTHORITY
CENTRAL PROJECT MANAGEMENT OFFICE
Parwan Province
Jabulsaraj District**

Deh Bala Bakhsh -2 4 Check Dams (PWN-JSJ-002)





Project DRAWINGS

Sep – 2020

TECHNICAL SPECIFICATIONS





- 1- Mass Concrete M-20: Supplying, placing, adding boulders, compacting and curing mass concrete M-20 (1:1.5:3) including frameworks and expansion joints sealing works as per relevant drawing, specification and to the complete satisfaction of the site engineer. crushed aggregates should be used
- 2-A good quality Stone for stone masonry, mass concrete, gabion and All stone related construction work should be of and approved by The Engineer.
- 3-All Grouted stone pitching in stilling basin and foundations should be with ratio of 1:3.
- 4-All Masonry cutoff wall shall be with 1:4 Cement Sand Mortar or as specified on the drawing.
- 5-Bitumen coating should be used in all contraction / expansion joints.
- 6-Percentage of boulder in the mass concrete should be between (25-40)% of total volume, also the sizes of the boulder should not be neither more than 1/5th of the lateral dimension of the structural element, nor 20 cm, whichever is less)
- 7-Backfilling material should be properly tested and selected to be suitable as per standard practice.
- 8-For backfilling maximum thickness of each loose soil layer should not more than 15 cm.
- 9-Standard Compaction tests should be carried out for the backfilling.
- 10-The percentage of compaction should be not less than 95% of the maximum dry density.
- 11-All Quality control field tests should be carried out by the Contractor in a specified laboratory as accepted by the client.
- 12-Expansion joints for Mass Concrete and weir walls should be provided as (12-15)m center to center.
- 13-Stone size for gabion shall range from (20-30) cm.
- 14-Galvanized iron wire of specified thickness (3mm) should be properly woven and knotted together to form the required mesh in hexagonal / rectangular shape of size (6-8)cm for gabion basket and (10-12)cm for gabion mattress to fabricate gabion boxes to the satisfaction of the Engineer.
- 15-Principal wire along the gabion edges (selvedges) for Gabion boxes should be of Galvanized Iron having minimum thickness of 4mm
- 16- Gabion Galvanized Iron wire tensile strength should be 350-575 N/mm². two type of Gabions should be used (1.5X0.5X1)M WITH 18.5KG/BOX OF WEIGHT AT THE TOP OF AND (2X1X1)M WITH 25KG/BOX OF WEIGHT AT BASE OF THE STRUCTURE.
- 17- All PCC under footings to have cement, sand and aggregate as specified on the drawings.
- 18- Reinforcement yield stress fy shall not be less than 2500 kg/cm².
- 19- Concrete design should be based on a compressive strength of $f_c = 200 \text{ kg/cm}^2$ as specified on the drawings.
- 20- Weight per unit volume of concrete $W = 2400 \text{ kg/m}^3$
- 21- Sand or fine aggregate shall be free from salt, alkali, calcium sulphate or vegetation and it shall not contain more than 0.5 percent by weight of clay.
- 22- Aggregate:- Coarse aggregate shall consist of crushed gravel with the max. size of 20mm.
- 23- The maximum slump for Mass concrete should be between (2.5-4) cm.
- 24- To increase the workability of the concrete provide the chemical admixture (Super plasticizer)
- 25- Water used for concrete mixture and concrete curing shall be from a source approved by the Engineer and at the time of use shall be free from contaminants.
- 26- Concrete compaction should be done by using concrete vibrator at the time of pouring in such a way to form a solid compact concrete.
- 27- Concrete curing should be continued for 14 days.
- 28- During Cold weather concreting should be stopped or the contractor has to consider cold weather concreting procedure as accepted by the engineer.
- 29- Concrete shuttering/framework should be of Steel type.
- 30-Concrete shuttering can be removed as per below minimum duration:

Side of beams, walls, columns	16-24 hours
Forms from beneath the slabs(spaning upto 6m)	14 days
Forms from beneath the slabs(spaning above 6m)	21days
- 31- As the geo technical survey is not conducted in the site of check dam, so any changes in the quantities of the contract is changeable due to need of site and guide of the site engineers and project manager.
- 32- Further, air-entraining admixture (AEA) to be added during mixing of concrete according to ASTM C260.
- 33- In-place, air content shall range 5 to 6 percent of the volume of concrete.
- 34- where weir or protection walls are touch to hard rock, dowel bar 20mm with epoxy should be used.
- 35- in mass concrete when cold and warm joint occur, stone grubbing should be used.
- 36- In expansion joints should have water stopper. installation of best quality PVC water stopper with 22.5 cm width(The water stopper shall be of extruded polyvinyl chloride complying with BS 2571: Class 3, Compound Type G4) and (2) cm thick cork filling as per relevant design drawings, technical specification and with satisfaction of Engineer Supervisor.

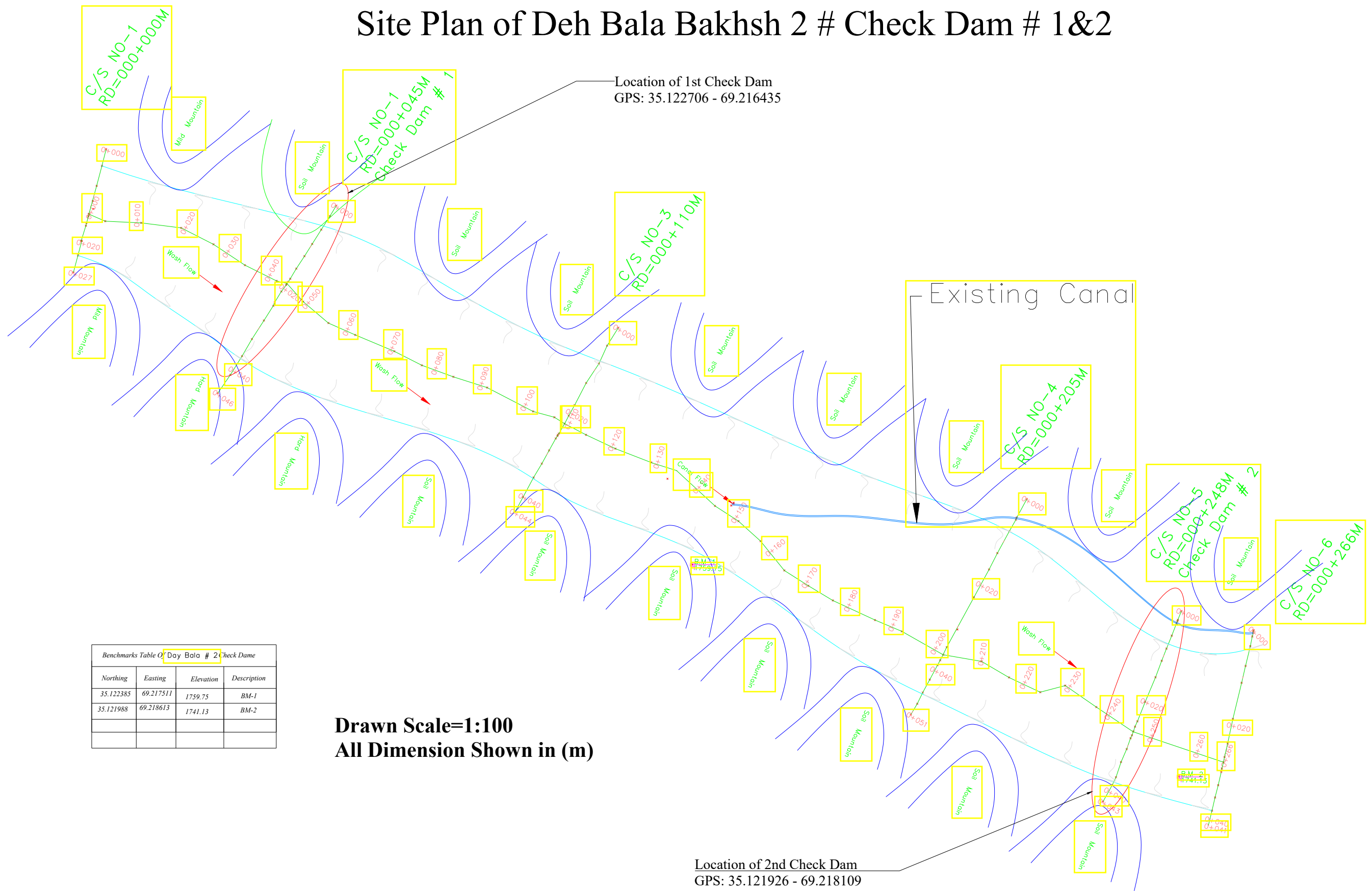
				Project	Drawing Content	Employer					DWG NO	
 Islamic Republic of Afghanistan	 National Water Affair Regulation Authority	 Asian Development Bank (ADB)	 Central Project Management Office	PWN-JSJ-002	Technical Specification	Surveyed by :	Designed by:	Drawn by:	Checked by:	Croos Checked by:	Approved by:	1/24
						Abdul Waheed and Eishan	Faridoon Danesh	Faridoon Danesh	Eng. Muhammad Akram Paktinyar	Eng. Fardeen Azimi	Eng. Said Moqeeem Sadat	Date: Sep-2020

Google Map of Day Bala Bakhsh2, Check Dam #1, 2, 3&4



 Islamic Republic of Afghanistan	 National Water Affair Regulation Authority	 Asian Development Bank (ADB)	 Central Project Management Office	Project	Drawing Content	Employer					DWG NO
				WAD-CAK-001	Google Map of 1st Valley	Surveyed by : Abdul Husain and Eishan	Designed by: Faridoon Danesh	Drawn by: Faridoon Danesh	Checked by: Eng. Muhammad Akram Paktinyar	Croos Checked by: Eng. Fardeen Azimi	Approved by: Eng. Said Moqeen Sadat





Site Plan of Deh Bala Bakhsh 2 # Check Dam # 1&2



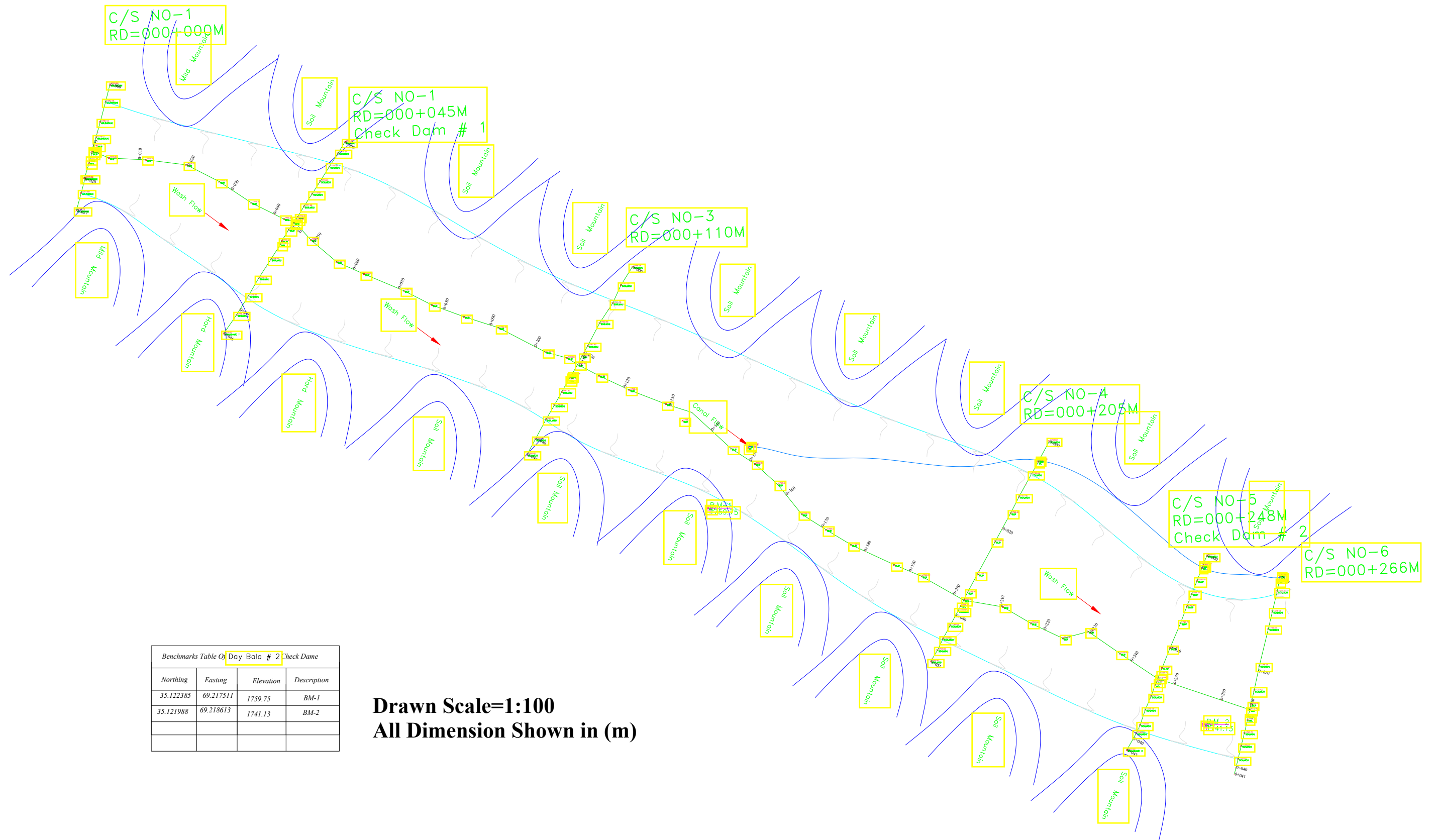
Benchmarks Table of Doy Bala # 2 Check Dam

Northing	Easting	Elevation	Description
35.122385	69.217511	1759.75	BM-1
35.121988	69.218613	1741.13	BM-2

Drawn Scale=1:100
All Dimension Shown in (m)

 Islamic Republic of Afghanistan	 National Water Affair Regulation Authority	 Asian Development Bank (ADB)	 Central Project Management Office	Project	Drawing Content	Employer					DWG NO
				PWN-JSJ-002	Site Plan - 1,2	Surveyed by : Abdul Waheed and Eishan	Designed by: Faridoon Danesh	Drawn by: Faridoon Danesh	Checked by: Eng. Muhammad Akram Paktinyar	Croos Checked by: Eng. Fardeen Azimi	Approved by: Eng. Said Moqem Sadat





Topographical Map of Deh Bala Bakhsh 2 # Check Dam # 1&2



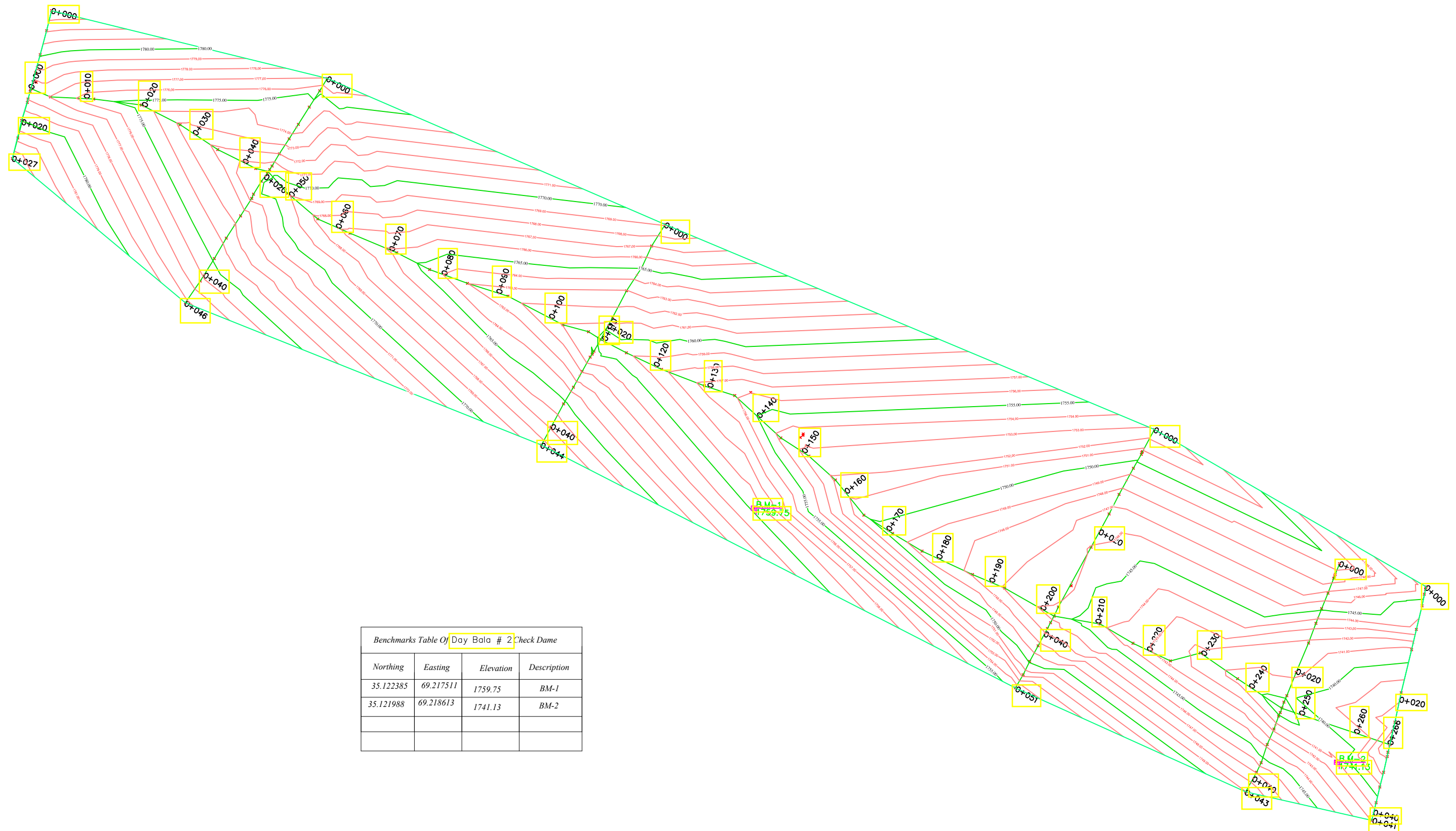
Benchmarks Table Of Doy Bolo # 2 Check Dame





Northing	Easting	Elevation	Description
35.122385	69.217511	1759.75	BM-1
35.121988	69.218613	1741.13	BM-2

Drawn Scale=1:100
All Dimension Shown in (m)

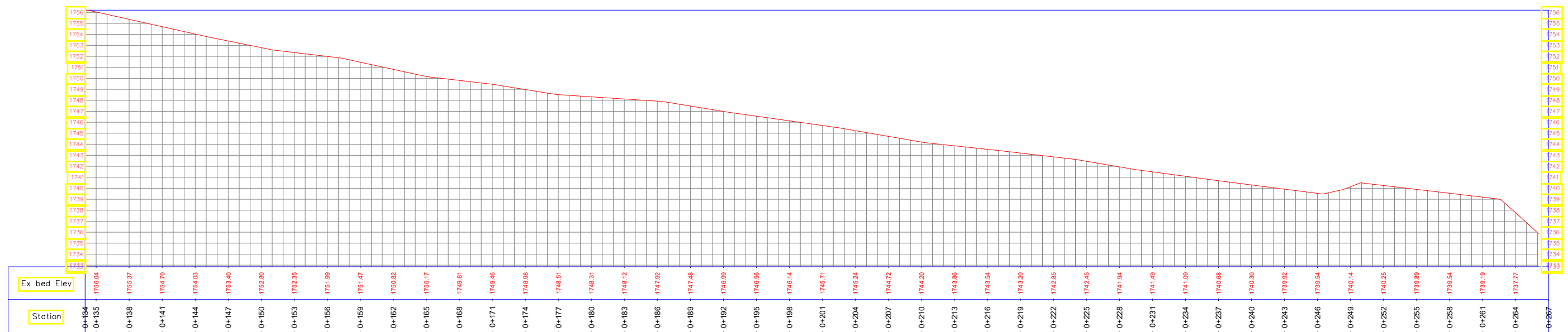
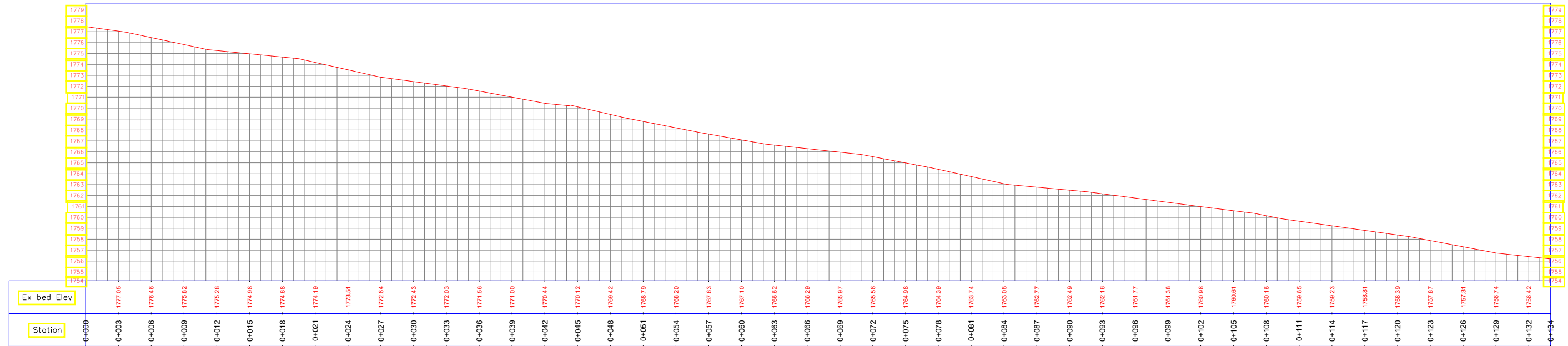
 Islamic Republic of Afghanistan	 National Water Affair Regulation Authority	 Asian Development Bank (ADB)	 Central Project Management Office	Project	Drawing Content	Employer						DWG NO
				PWN-JSJ-002	Topography map of 1,2	Surveyed by : Abdull Waheed and Eishan	Designed by: Faridoon Danesh	Drawn by: Faridoon Danesh	Checked by: Eng. Muhammad Akram Paktinyar	Croos Checked by: Eng. Fardeen Azimi	Approved by: Eng. Said Moqeeem Sadat	4/25 Date: Sep-2020





Contour Map of Deh Bala Bakhsh 2 # Check Dam # 1&2



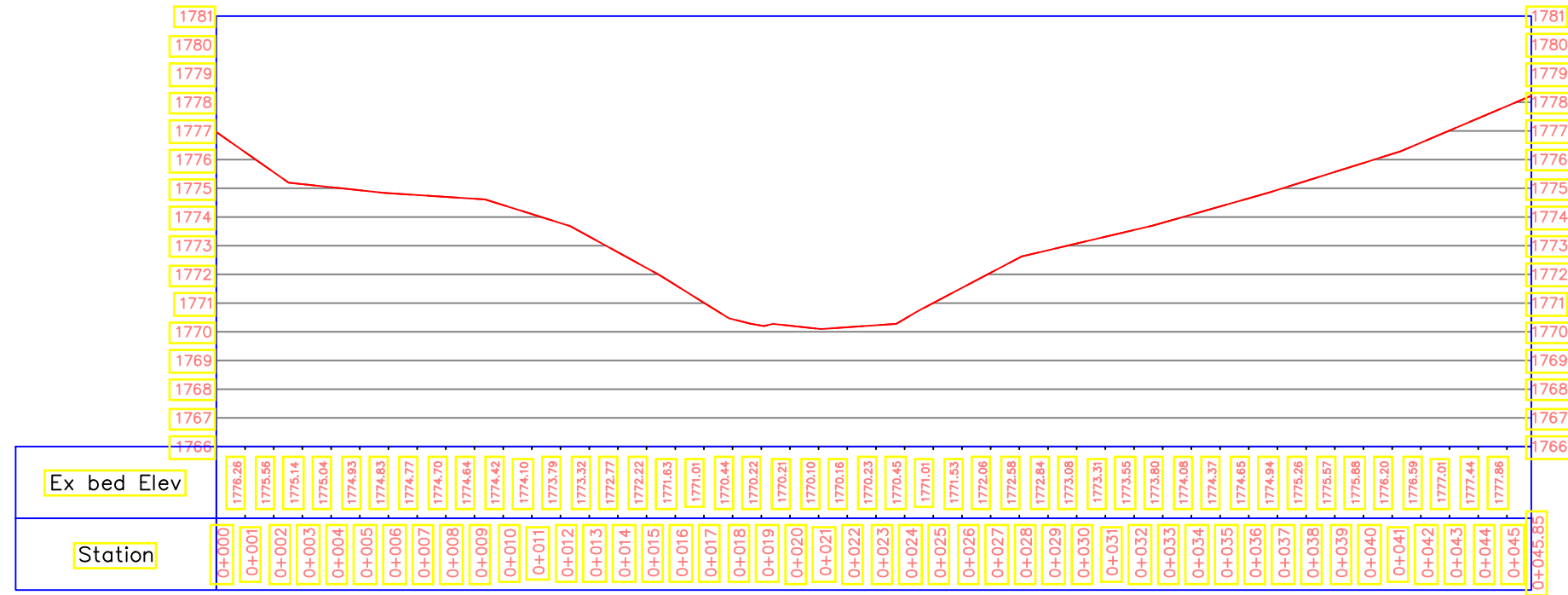
 Islamic Republic of Afghanistan	 National Water Affair Regulation Authority	 Asian Development Bank (ADB)	 Central Project Management Office	Project	Drawing Content	Employer					DWG NO
				PWN-JSJ-002	Contour Map of Check Dam #1,2	Surveyed by : Abdul Waheed and Eishan	Designed by: Faridoon Danesh	Drawn by: Faridoon Danesh	Checked by: Eng. Muhammad Akram Paktinyar	Croos Checked by: Eng. Fardeen Azimi	Approved by: Eng. Said Moqem Sadat

Profile of Deh Bala Bakhsh 2 # Check Dam # 1&2

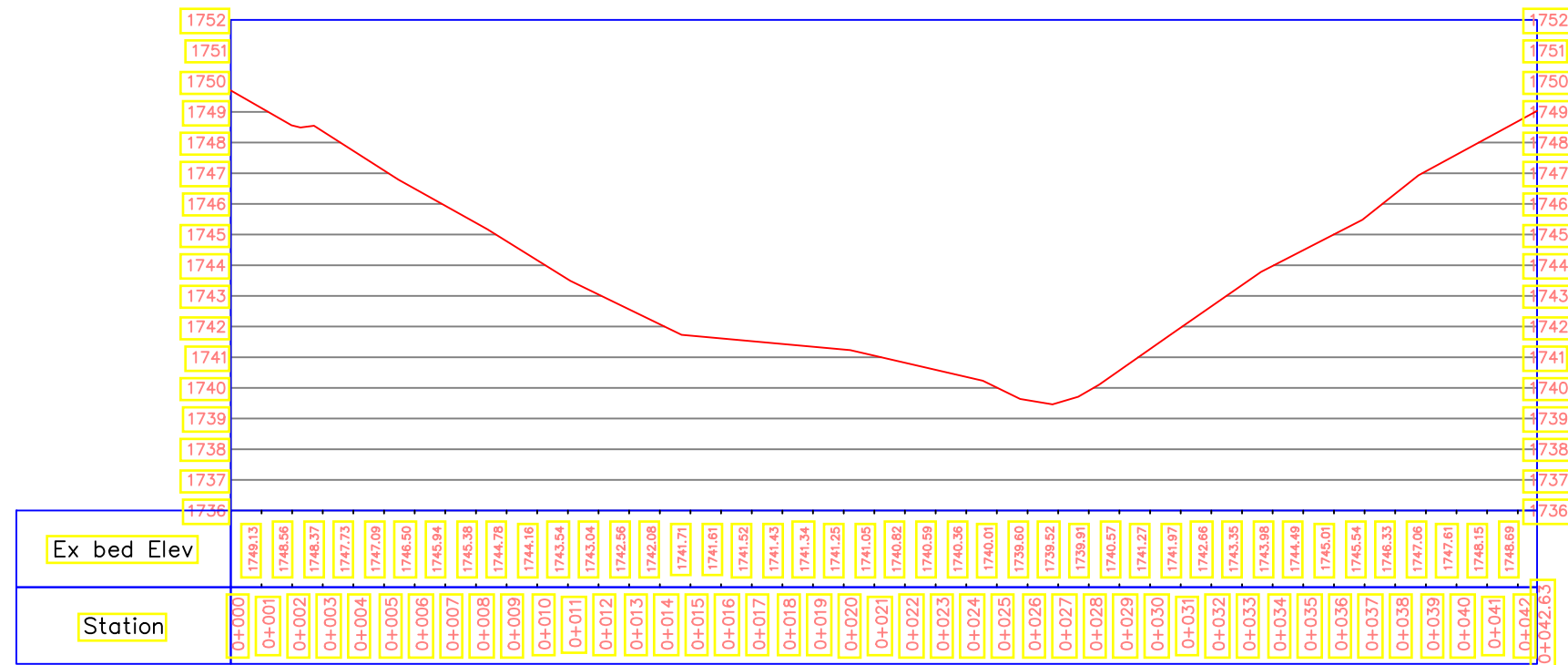






 Islamic Republic of Afghanistan	 National Water Affair Regulation Authority	 Asian Development Bank (ADB)	 Central Project Management Office	Project	Drawing Content	Employer					DWG NO
				PWN-JSJ-002	Long Sections Check Dam # 1,2	Surveyed by : Abdul Waheed and Eishan	Designed by: Faridoon Danesh	Drawn by: Faridoon Danesh	Checked by: Eng. Muhammad Akram Paktinyar	Croos Checked by: Eng. Fardeen Azimi	Approved by: Eng. Said Moqem Sadat
											Date: Sep-2020

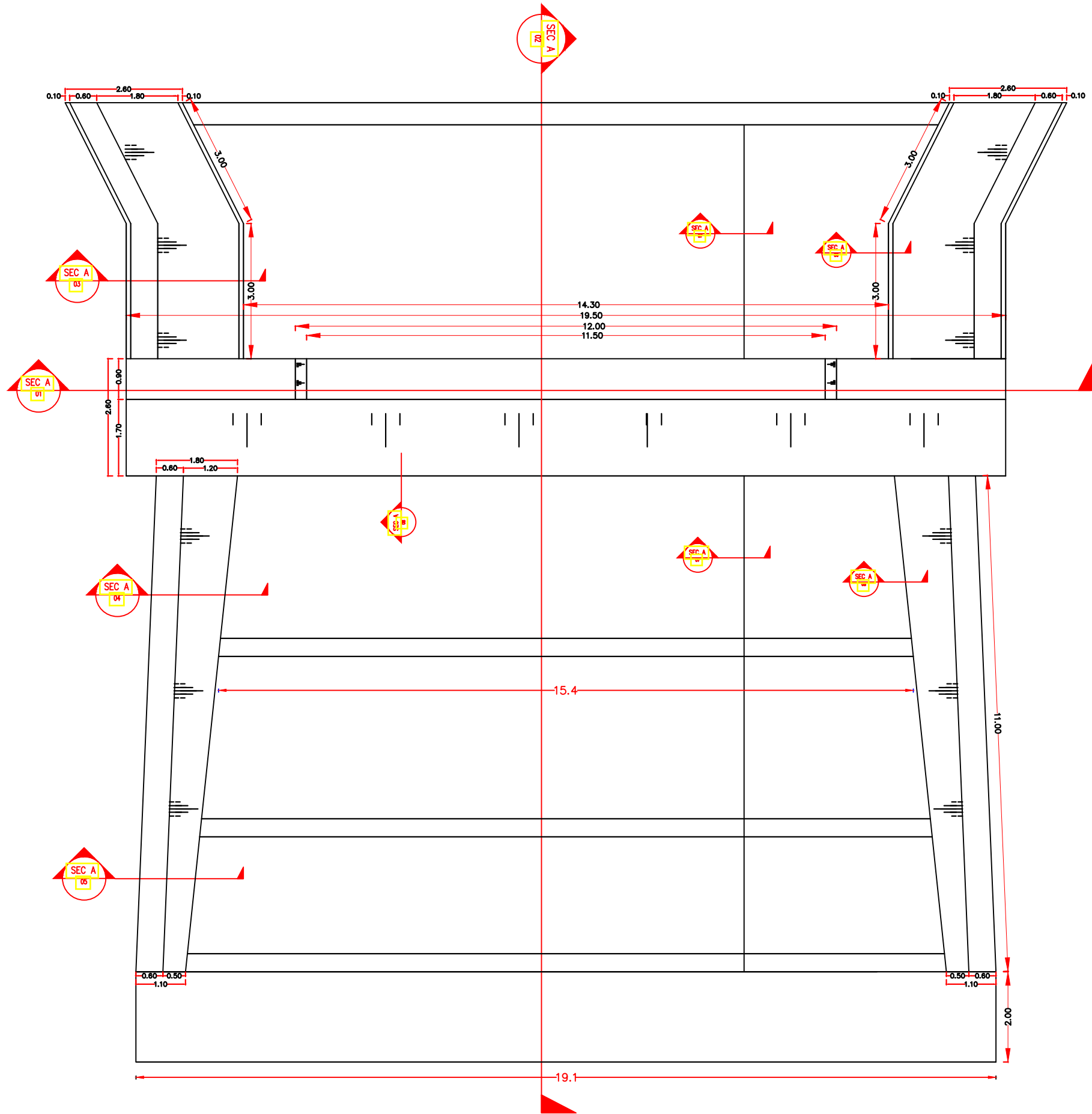
Section RD 0+045 Day Bala # 2 check dam #1







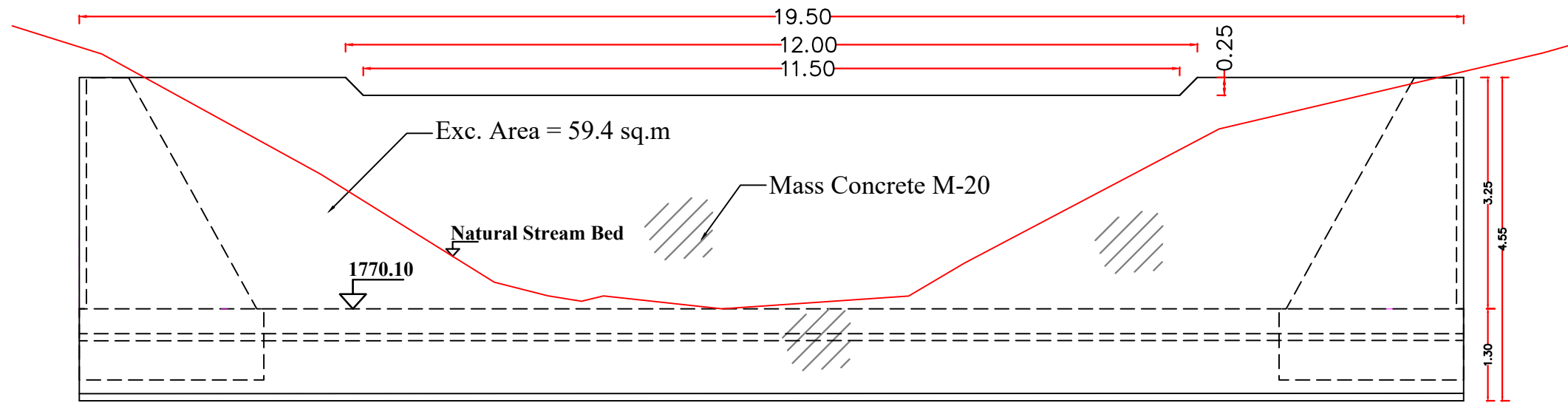
Section RD 0+248 Day Bala # 2 check dam #2



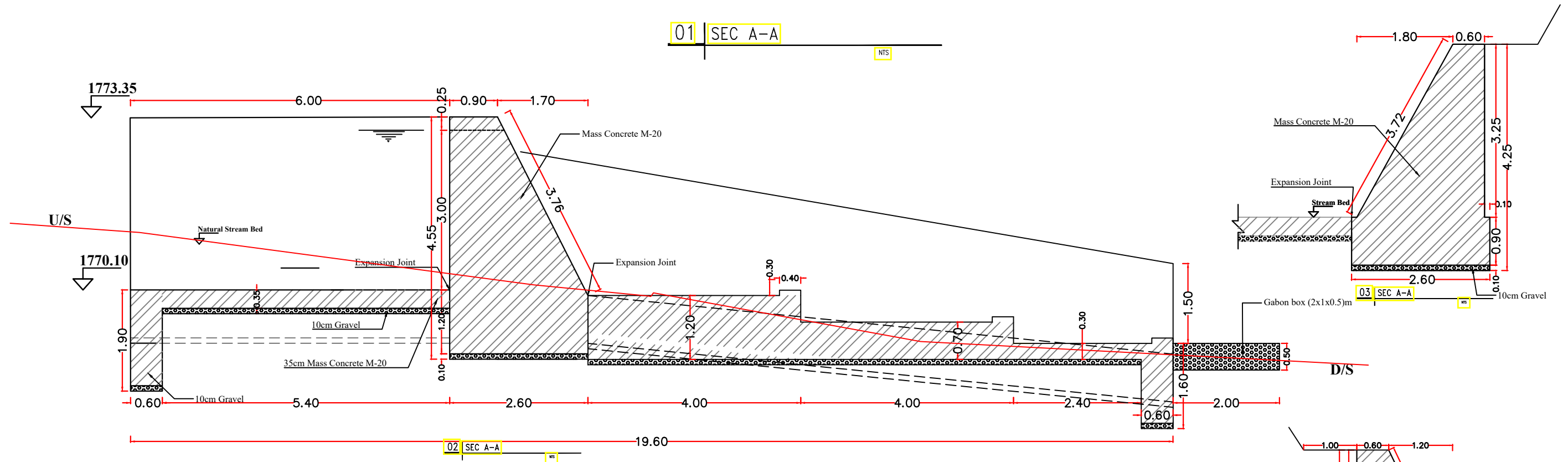
 Islamic Republic of Afghanistan	 National Water Affair Regulation Authority	 Asian Development Bank (ADB)	 Central Project Management Office	Project	Drawing Content	Employer					DWG NO
				PWN-JSJ-002	Cross Section Check Dam# 1,2	Surveyed by : Abdoul Waheed and Eishan	Designed by: Faridoon Danesh	Drawn by: Faridoon Danesh	Checked by: Eng. Muhammad Akram Paktinyar	Croos Checked by: Eng. Fardeen Azimi	Approved by: Eng. Said Moqeeem Sadat
											Date: Sep-2020



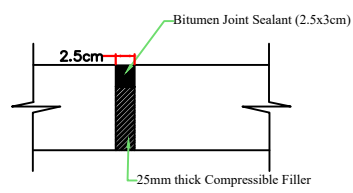
 Islamic Republic of Afghanistan	 National Water Affair Regulation Authority	 Asian Development Bank (ADB)	 Central Project Management Office	Project	Drawing Content	Employer					DWG NO
				PWN-JSJ-002	Plan of Check Dam #1	Surveyed by : Abdul Waheed and Eishan	Designed by: Faridoon Danesh	Drawn by: Faridoon Danesh	Checked by: Eng. Muhammad Akram Paktinyar	Croos Checked by: Eng. Fardeen Azimi	Approved by: Eng. Said Moqem Sadat



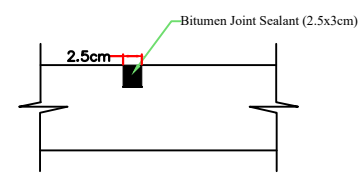
01 SEC A-A



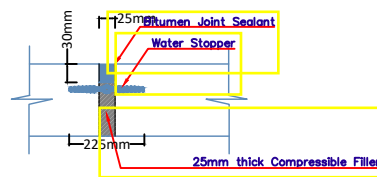
02 SEC A-A



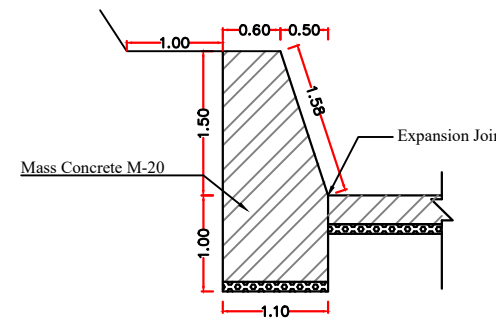
06 SEC A-A (Expansion Joint) u/s



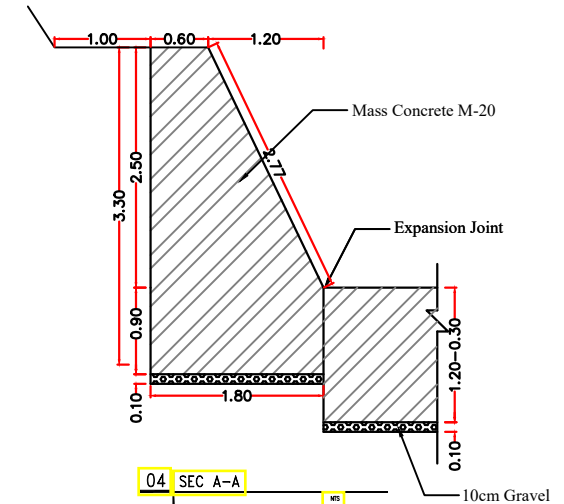
07 SEC A-A (Contraction Joint @3m)







08 SEC A-A (Expansion Joint) d/s

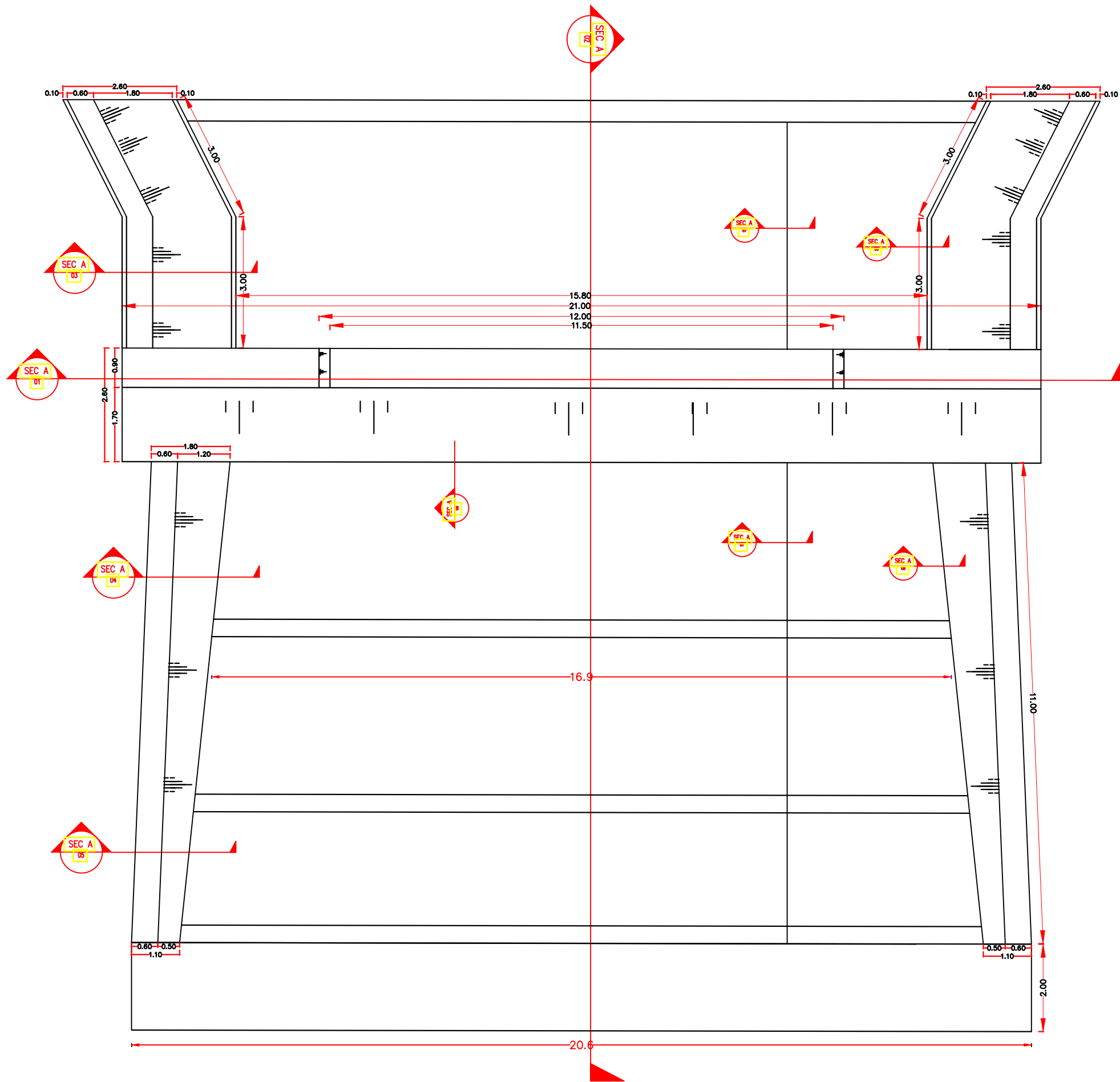






05 SEC A-A



04 SEC A-A

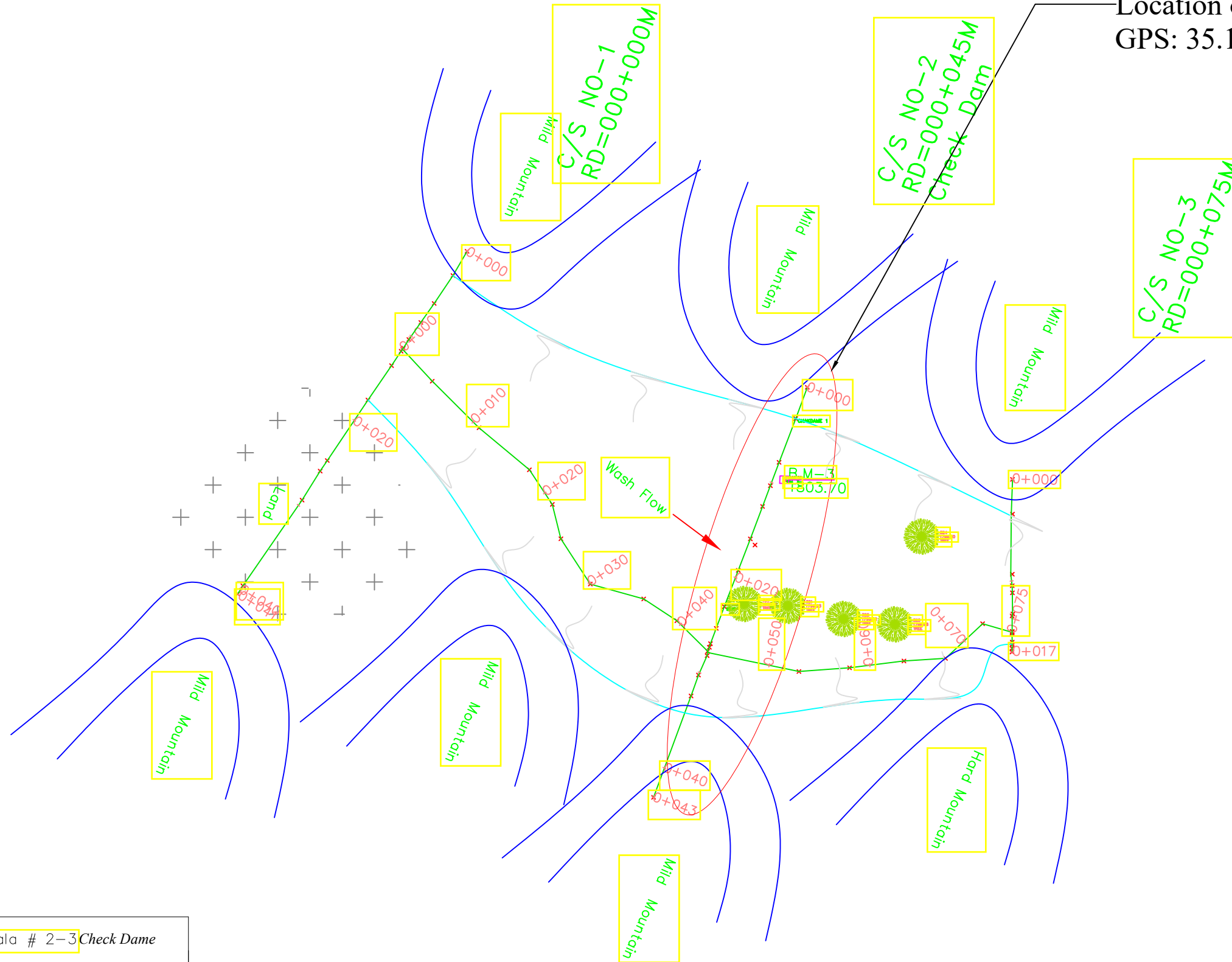
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 Islamic Republic of Afghanistan	 National Water Affair Regulation Authority	 Asian Development Bank (ADB)	 Central Project Management Office	Project	Drawing Content	Employer					DWG NO
				PWN-JSJ-002	Plan of Check Dam # 2	Surveyed by : Abdul Waheed and Eishan	Designed by: Faridoon Danesh	Drawn by: Faridoon Danesh	Checked by: Eng. Muhammad Akram Paktinyar	Croos Checked by: Eng. Fardeen Azimi	Approved by: Eng. Said Moqem Sadat

Site Plan of Deh Bala Bakhsh 2 # Check Dam #3





Location of 3rd Check Dam
GPS: 35.123357 - 69.215578



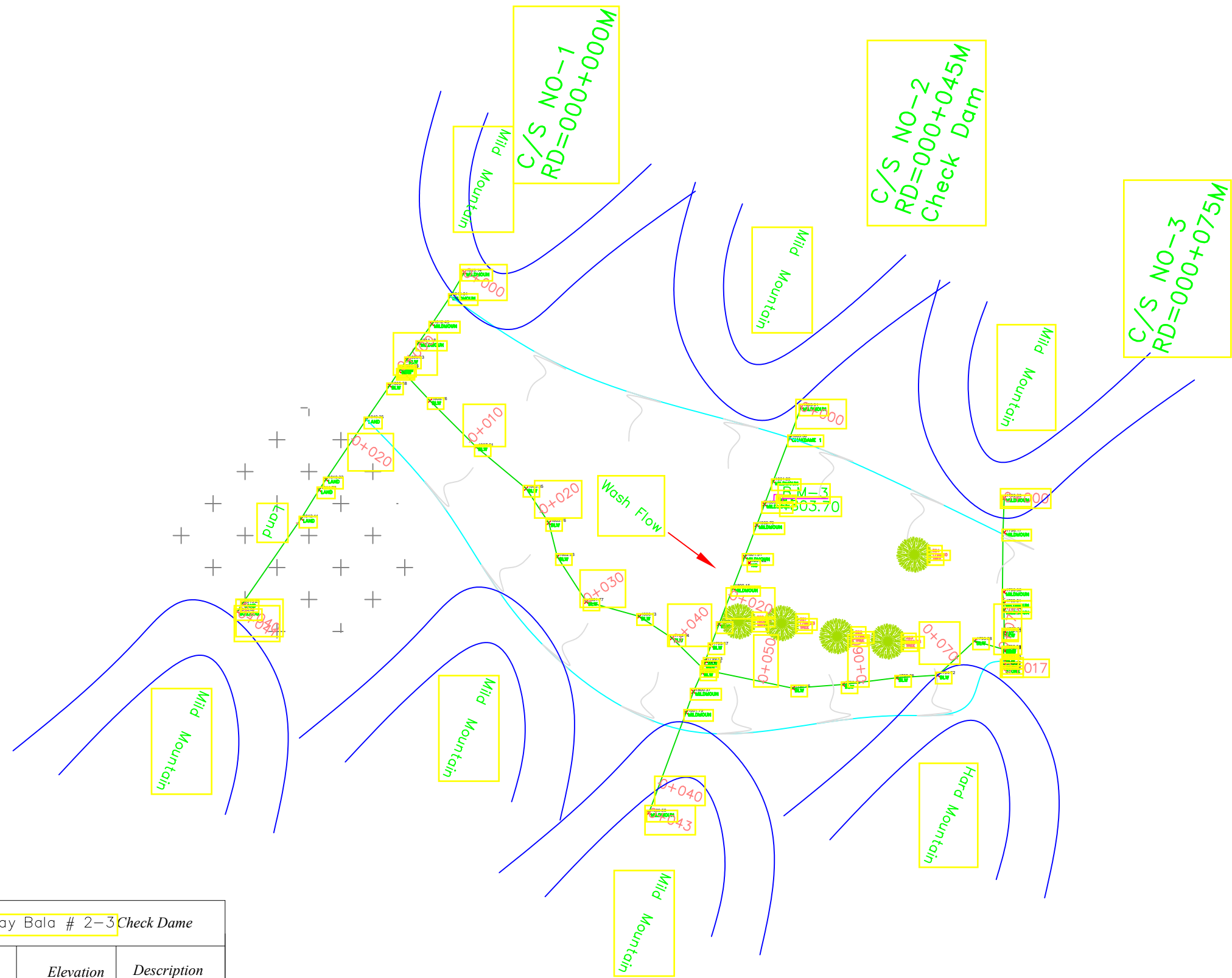
Benchmarks Table Of Day Bala # 2-3 Check Dame

Northing	Easting	Elevation	Description
35.123300	69.215579	1803.67	BM-3

Drawn Scale=1:100
All Dimension Shown in (m)

 Islamic Republic of Afghanistan	 National Water Affair Regulation Authority	 Asian Development Bank (ADB)	 Central Project Management Office	Project	Drawing Content	Employer					DWG NO
				PWN-JSJ-002	Sections, Joints Check Dam # 3	Surveyed by : Abdul Waheed and Eishan	Designed by: Faridoon Danesh	Drawn by: Faridoon Danesh	Checked by: Eng. Muhammad Akram Paktinyar	Croos Checked by: Eng. Fardeen Azimi	Approved by: Eng. Said Moqem Sadat





Topographical Map of Deh Bala Bakhsh 2 # Check Dam # 3



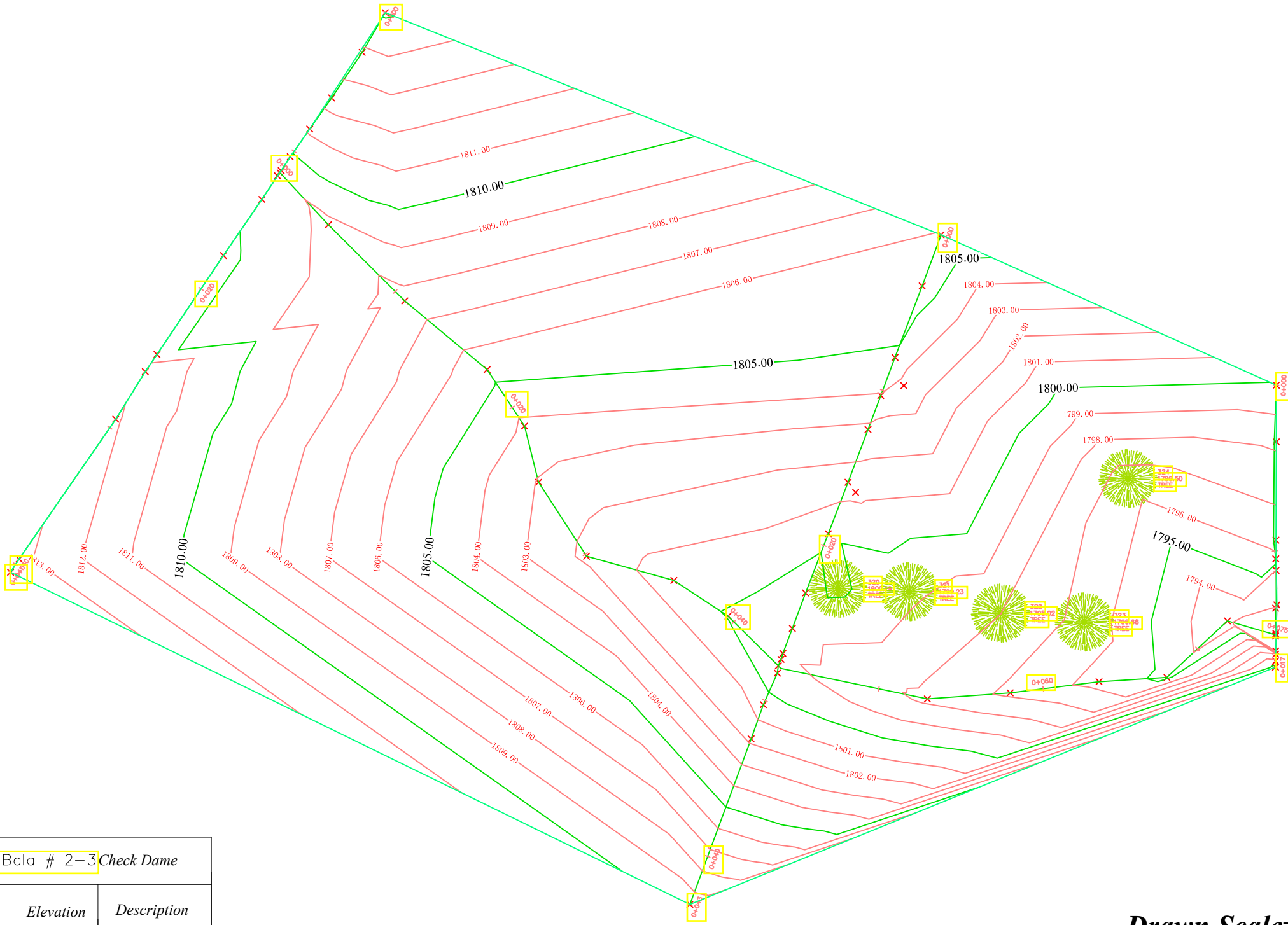
Benchmarks Table Of Day Bala # 2-3 Check Dame

Northing	Easting	Elevation	Description
35.123300	69.215579	1803.67	BM-3

Drawn Scale=1:100
All Dimension Shown in (m)

 Islamic Republic of Afghanistan	 National Water Affair Regulation Authority	 Asian Development Bank (ADB)	 Central Project Management Office	Project	Drawing Content	Employer					DWG NO
				PWN-JSJ-002	Google Map - 2	Surveyed by : Abdul Waheed and Eishan	Designed by: Faridoon Danesh	Drawn by: Faridoon Danesh	Checked by: Eng. Muhammad Akram Paktinyar	Croos Checked by: Eng. Fardeen Azimi	Approved by: Eng. Said Moqem Sadat





Contour Map of Deh Bala Bakhsh 2 # Check Dam # 3



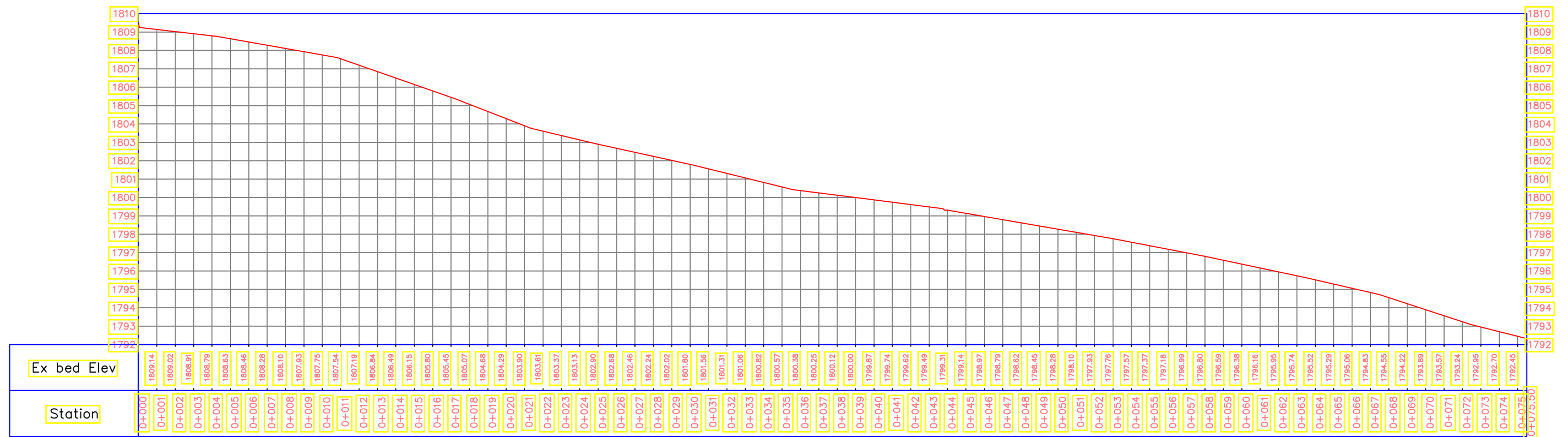
Benchmarks Table Of Day Bala # 2-3 Check Dame





Northing	Easting	Elevation	Description
35.123300	69.215579	1803.67	BM-3

Drawn Scale=1:100
All Dimension Shown in (m)

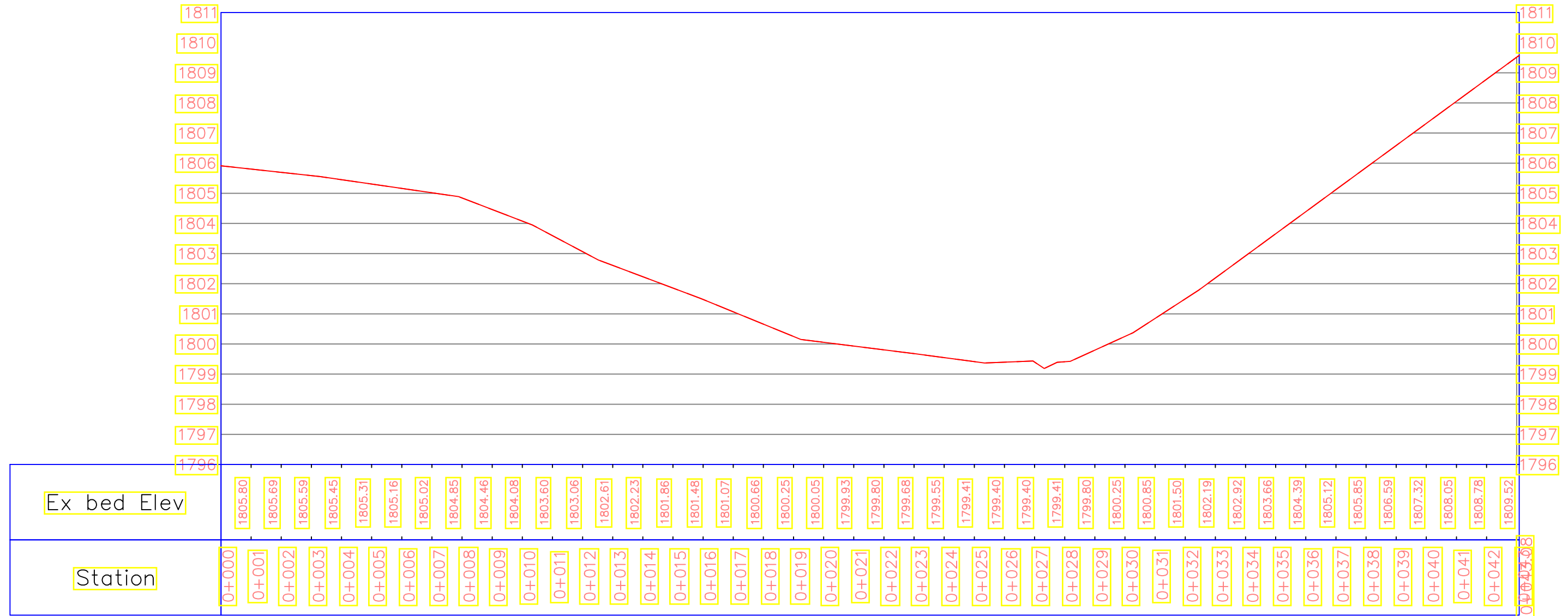
 Islamic Republic of Afghanistan	 National Water Affair Regulation Authority	 Asian Development Bank (ADB)	 Central Project Management Office	Project	Drawing Content	Employer					DWG NO
				PWN-JSJ-002	Plan of 2nd Valley Check Dams	Surveyed by : Abdul Waheed and Eishan	Designed by: Faridoon Danesh	Drawn by: Faridoon Danesh	Checked by: Eng. Muhammad Akram Paktinyar	Croos Checked by: Eng. Fardeen Azimi	Approved by: Eng. Said Moqem Sadat





Profile of Deh Bala Bakhsh 2 # Check Dam #3

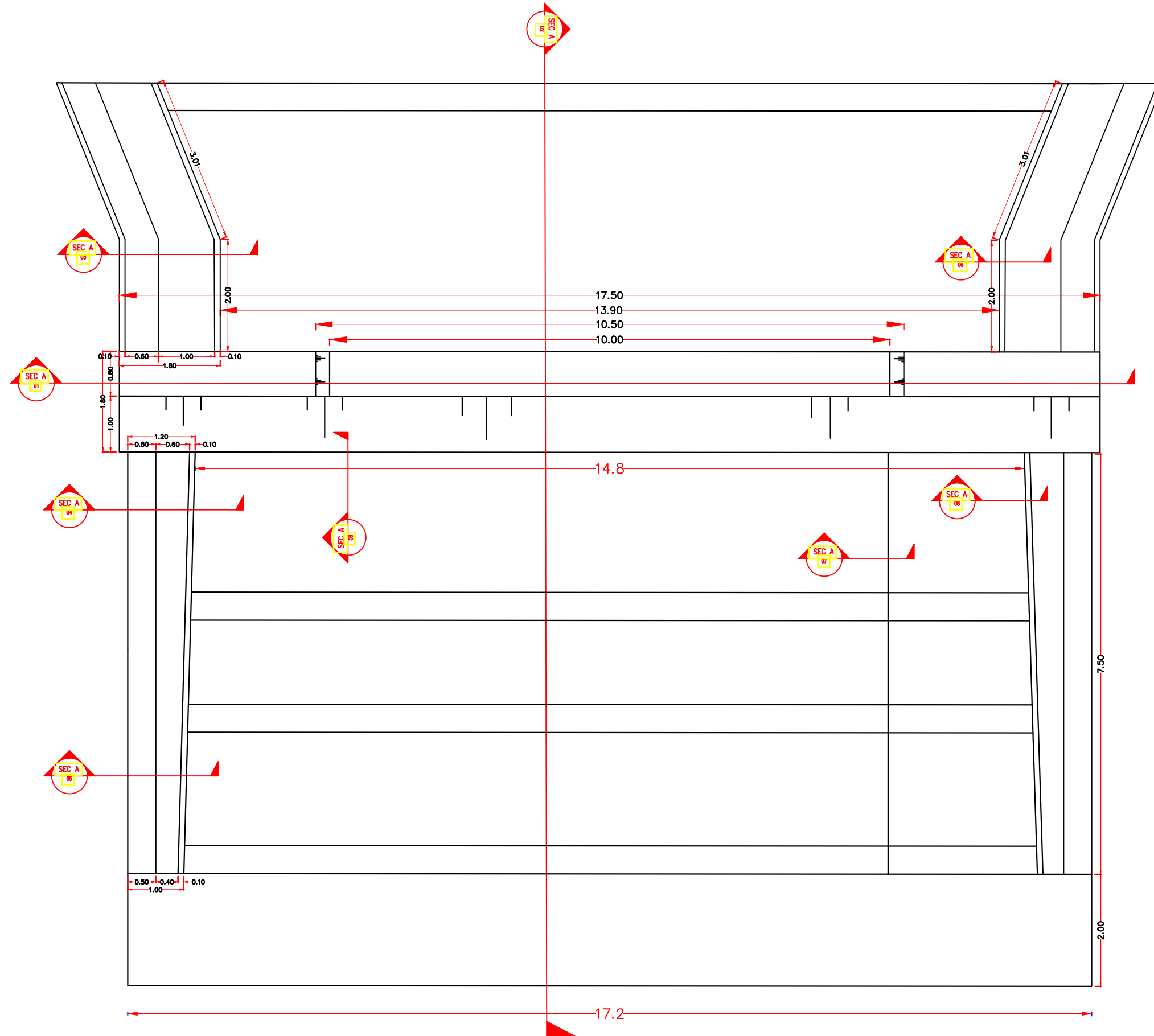


 Islamic Republic of Afghanistan	 National Water Affair Regulation Authority	 Asian Development Bank (ADB)	 Central Project Management Office	Project	Drawing Content	Employer					DWG NO
				PWN-JSJ-002	Plan of Check Dam # 2nd Valley	Surveyed by : Abdul Waheed and Eishan	Designed by: Faridoon Danesh	Drawn by: Faridoon Danesh	Checked by: Eng. Muhammad Akram Paktinyar	Croos Checked by: Eng. Fardeen Azimi	Approved by: Eng. Said Moqem Sadat





Cross Section Day Bala # 2 check dam #3, RD 0+045

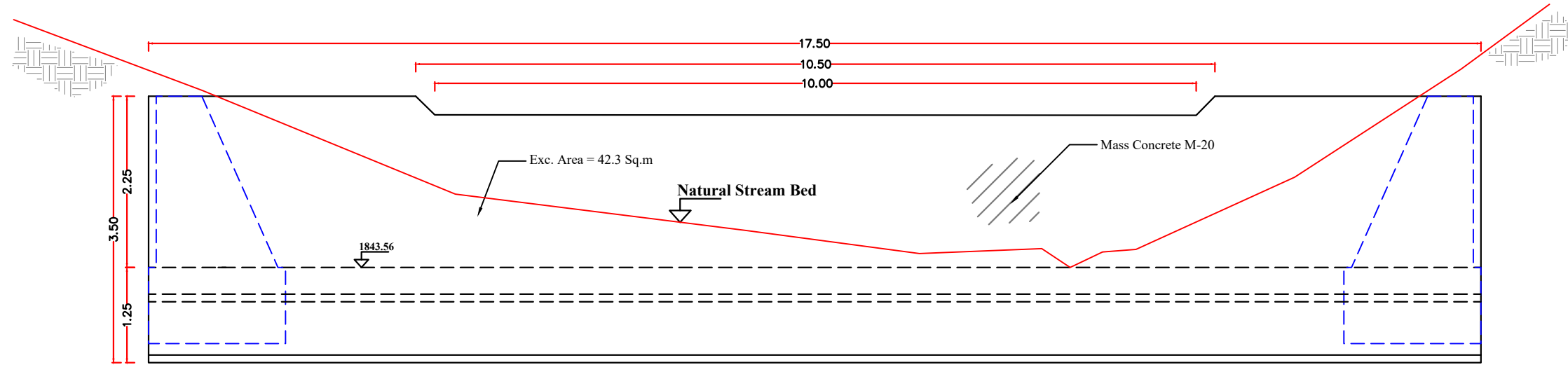


 Islamic Republic of Afghanistan	 National Water Affair Regulation Authority	 Asian Development Bank (ADB)	 Central Project Management Office	Project	Drawing Content	Employer					DWG NO
				PWN-JSJ-002	Long Section of 2nd Valley	Surveyed by : Abdul Waheed and Eishan	Designed by: Faridoon Danesh	Drawn by: Faridoon Danesh	Checked by: Eng. Muhammad Akram Paktinyar	Croos Checked by: Eng. Fardeen Azimi	Approved by: Eng. Said Moqeen Sadat



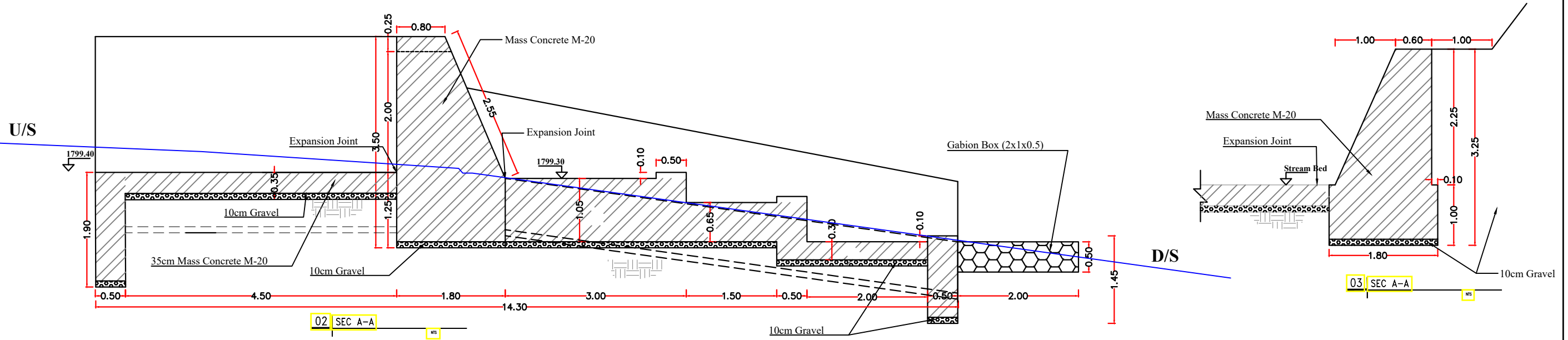
The angle of the wing walls should be adjusted as the site condition

 Islamic Republic of Afghanistan	 National Water Affair Regulation Authority	 Asian Development Bank (ADB)	 Central Project Management Office	Project	Drawing Content	Employer						DWG NO
				PWN-JSJ-002	Plan of Check Dam # 3	Surveyed by : Abdul Waheed and Eishan	Designed by: Faridoon Danesh	Drawn by: Faridoon Danesh	Checked by: Eng. Muhammad Akram Paktinyar	Cross Checked by: Eng. Fardeen Azimi	Approved by: Eng. Said Moqem Sadat	17/25 Date: Sep-2020



01 SEC A-A

NTS

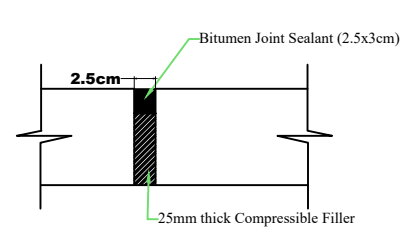


02 SEC A-A

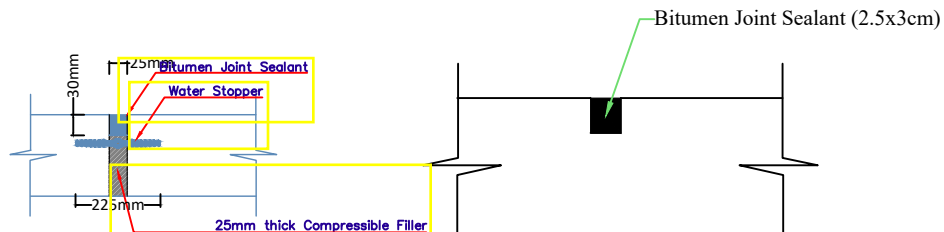
NTS

03 SEC A-A

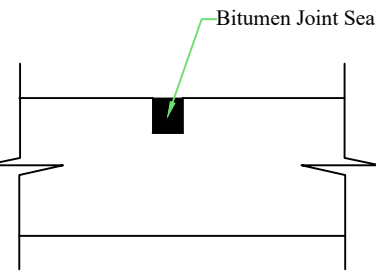
NTS



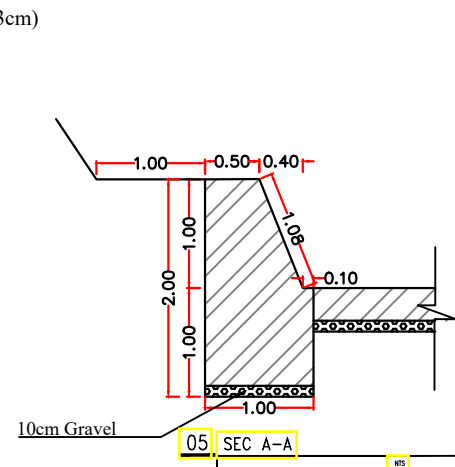
06 SEC A-A (Expansion Joint) u/s



08 SEC A-A (Expansion Joint) d/s

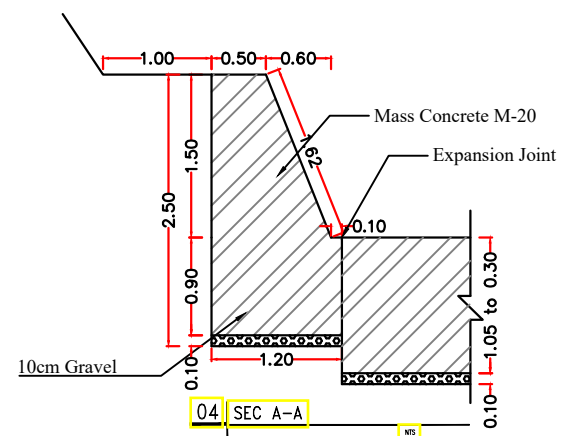


07 SEC A-A (Contraction Joint @3m)



05 SEC A-A

NTS



04 SEC A-A

NTS



Islamic Republic of Afghanistan



National Water Affair Regulation Authority



Asian Development Bank (ADB)



Central Project Management Office

Project

PWN-JSJ-002

Drawing Content

Cross Section of Check Dam # 3

Employer

Surveyed by :
Abdul Waheed and Eishan

Designed by:
Faridoon Danesh

Drawn by:
Faridoon Danesh

Checked by:
Eng. Muhammad Akram Paktinyar

Cross Checked by:
Eng. Fardeen Azimi

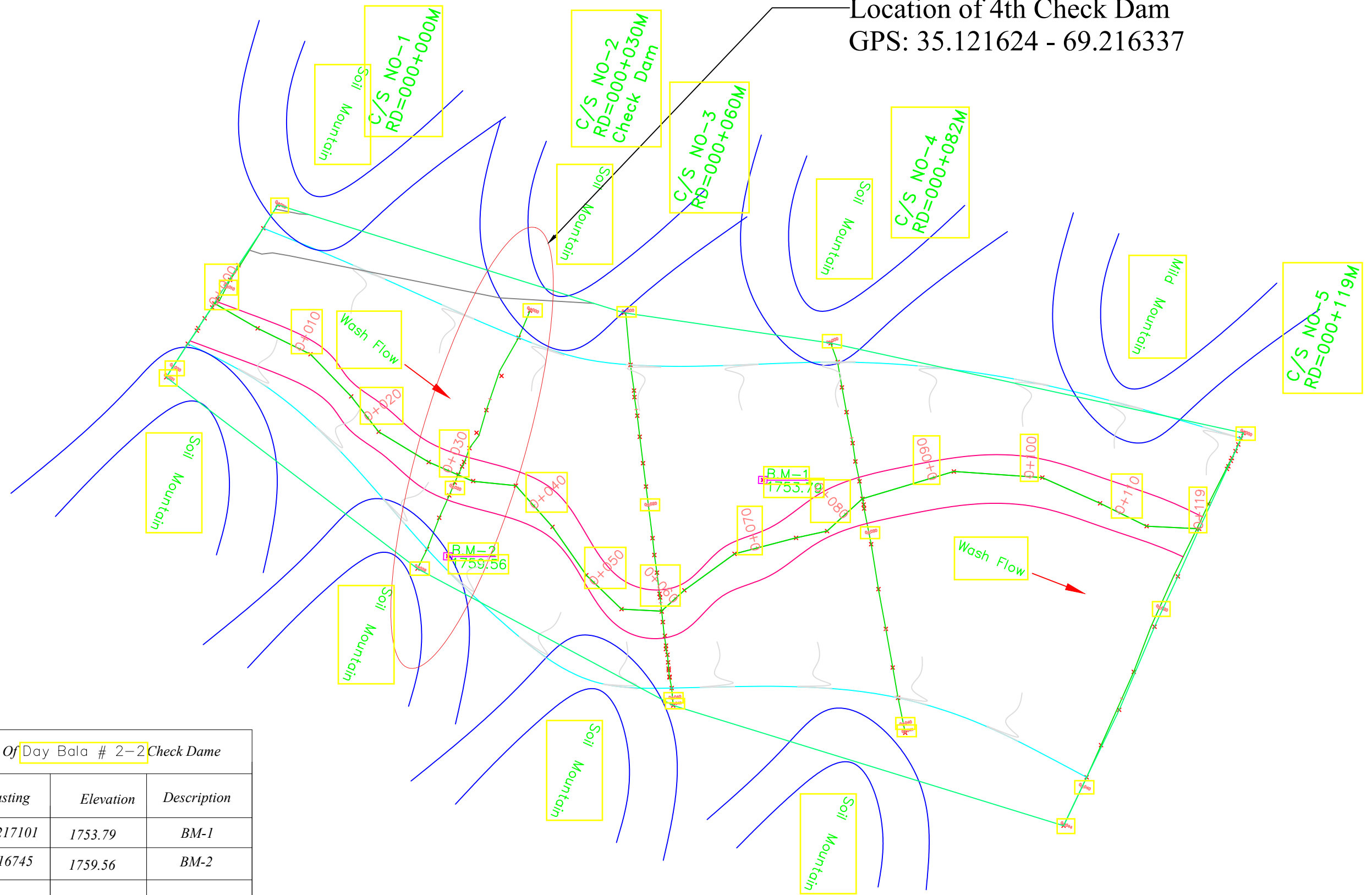
Approved by:
Eng. Said Moqem Sadat

DWG NO

18/25
Date:
Sep-2020





Site Plan of Deh Bala Bakhsh 2 # Check Dam # 4

Location of 4th Check Dam
GPS: 35.121624 - 69.216337

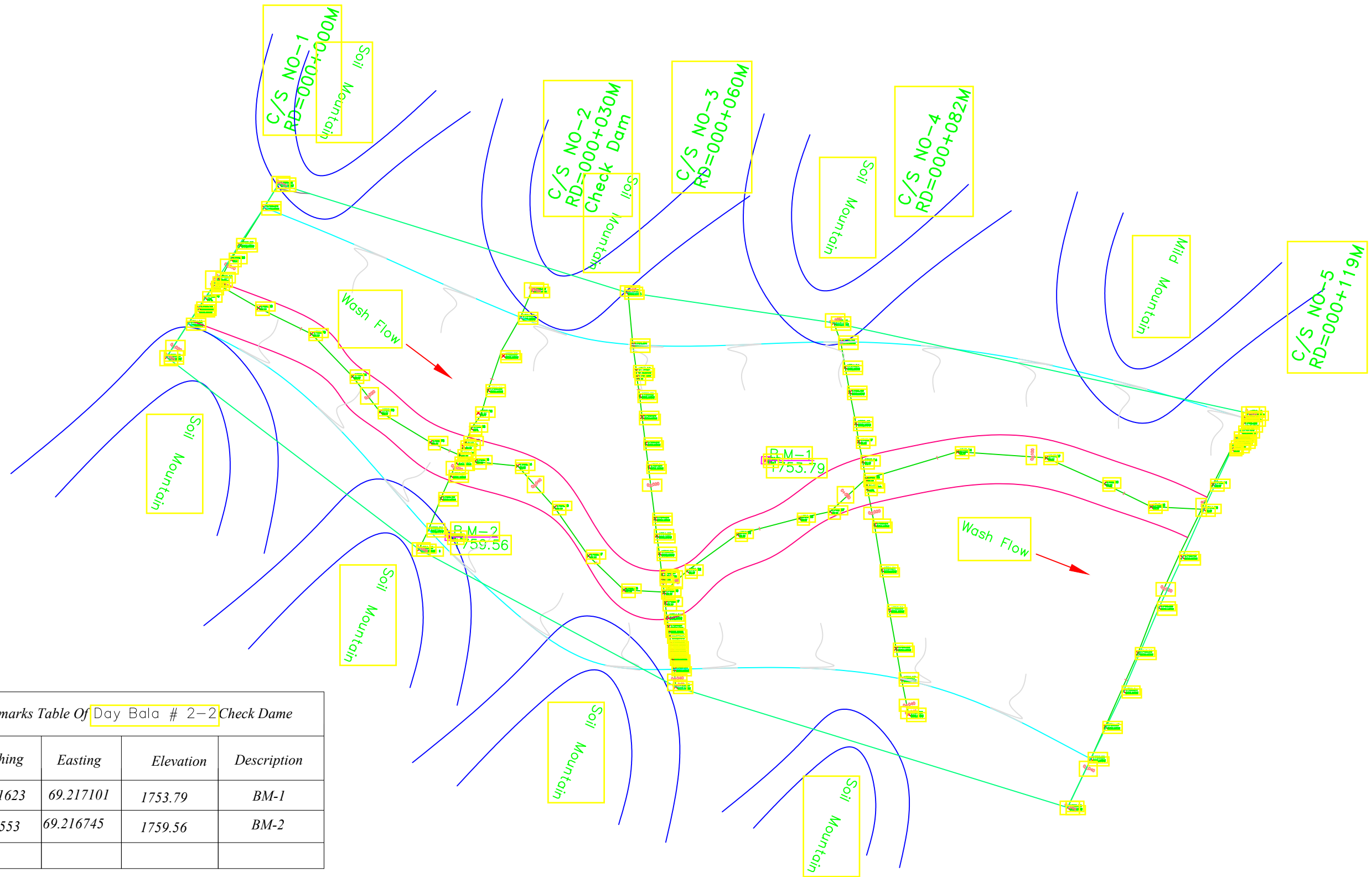


Benchmarks Table Of Day Bala # 2-2 Check Dame

Northing	Easting	Elevation	Description
35.121623	69.217101	1753.79	BM-1
35.121553	69.216745	1759.56	BM-2





 Islamic Republic of Afghanistan	 National Water Affair Regulation Authority	 Asian Development Bank (ADB)	 Central Project Management Office	Project	Drawing Content	Employer					DWG NO
				PWN-JSJ-002	Site Plan of Check Dam # 4	Surveyed by : Abdul Waheed and Eishan	Designed by: Faridoon Danesh	Drawn by: Faridoon Danesh	Checked by: Eng. Muhammad Akram Paktinyar	Croos Checked by: Eng. Fardeen Azimi	Approved by: Eng. Said Moqem Sadat

Topographical Map of Deh Bala Bakhsh 2 # Check Dam # 4

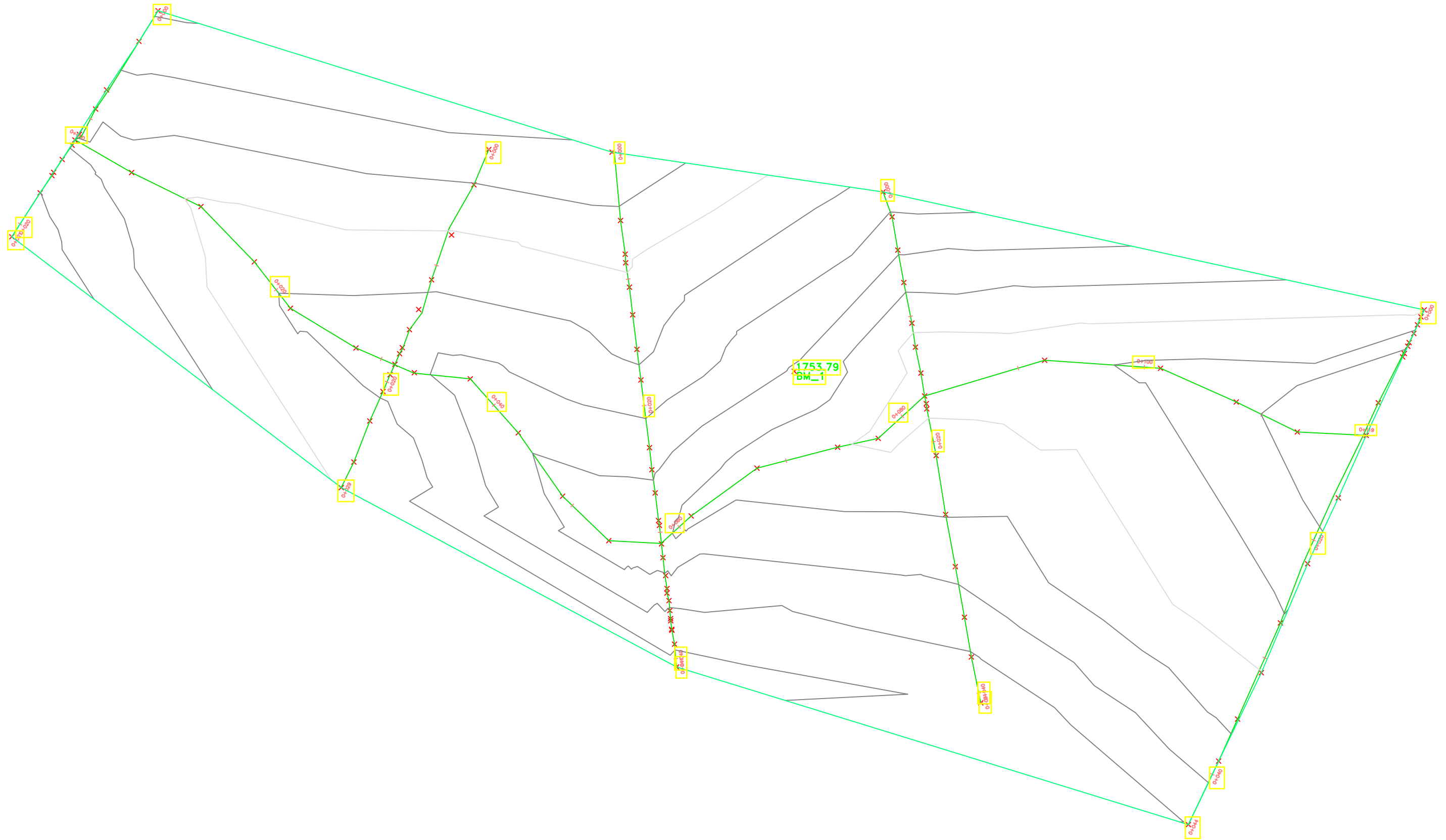






Benchmarks Table Of Day Bala # 2-2 Check Dame

Northing	Easting	Elevation	Description
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35.121553	69.216745	1759.56	BM-2

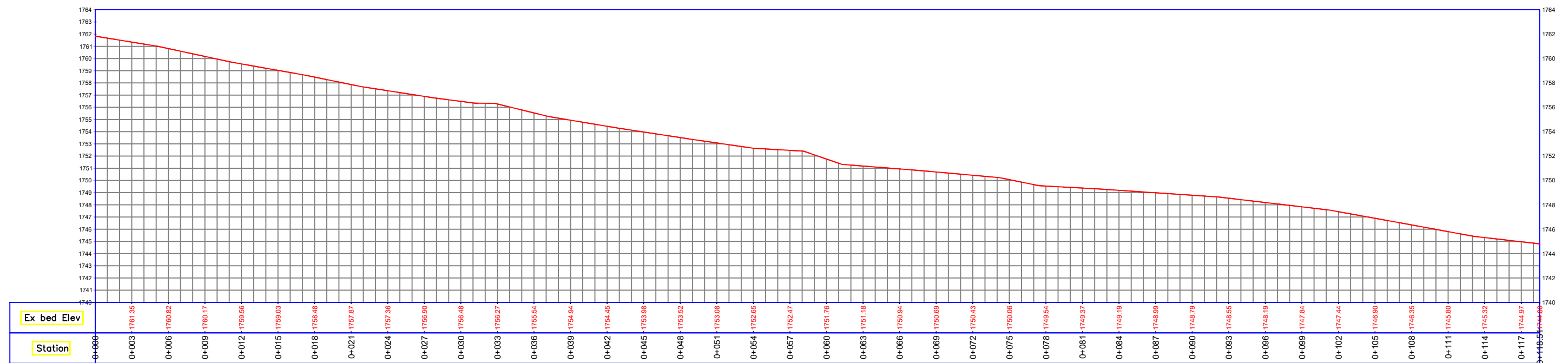
 Islamic Republic of Afghanistan	 National Water Affair Regulation Authority	 Asian Development Bank (ADB)	 Central Project Management Office	Project PWN-JSJ-002	Drawing Content Topography map of Check Dam # 4	Employer					DWG NO 20/25
				Surveyed by : Abdul Waheed and Eishan	Designed by: Faridoon Danesh	Drawn by: Faridoon Danesh	Checked by: Eng. Muhammad Akram Paktinyar	Croos Checked by: Eng. Fardeen Azimi	Approved by: Eng. Said Moqem Sadat	Date: Sep-2020	





Contour Map of Deh Bala Bakhsh 2 # Check Dam # 4



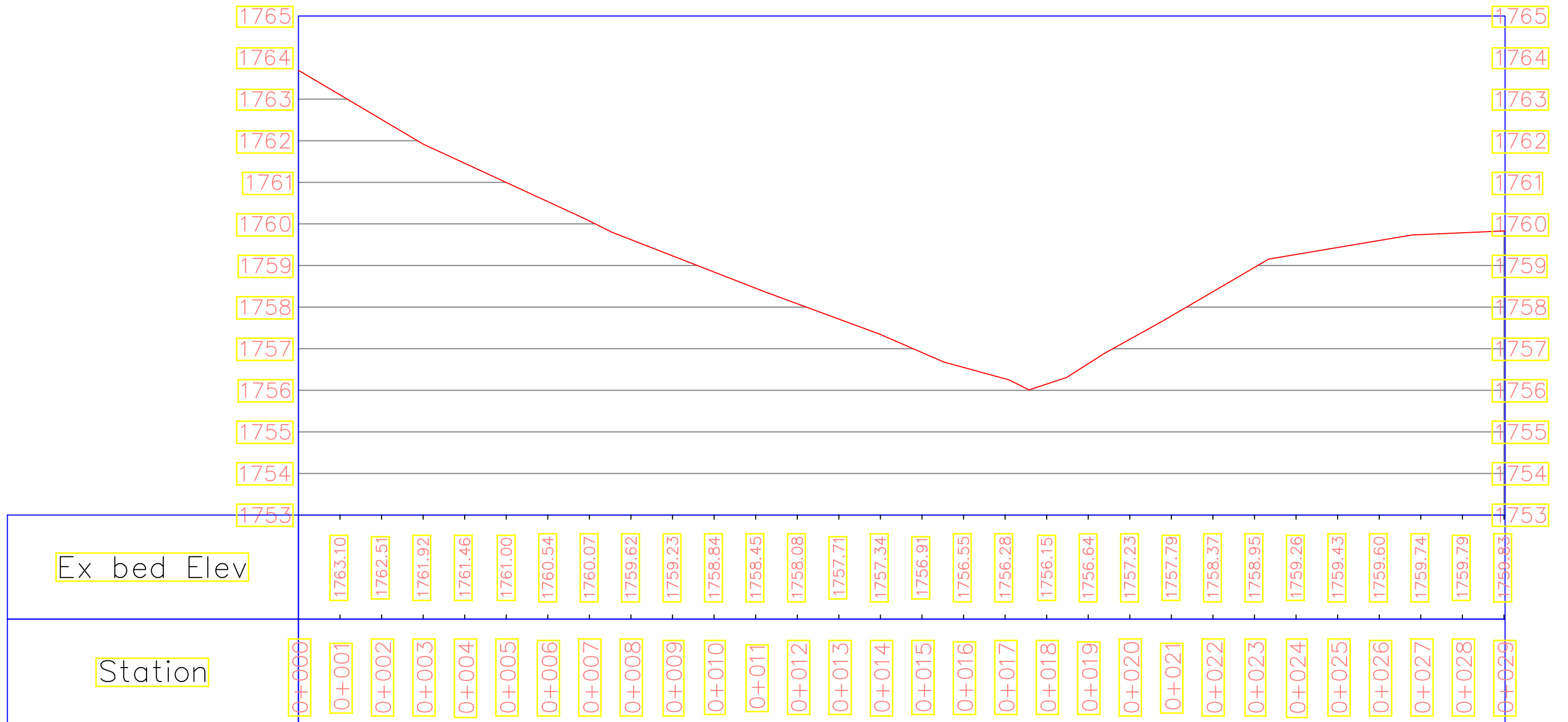
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Profile of Deh Bala Bakhsh 2 # Check Dam #4



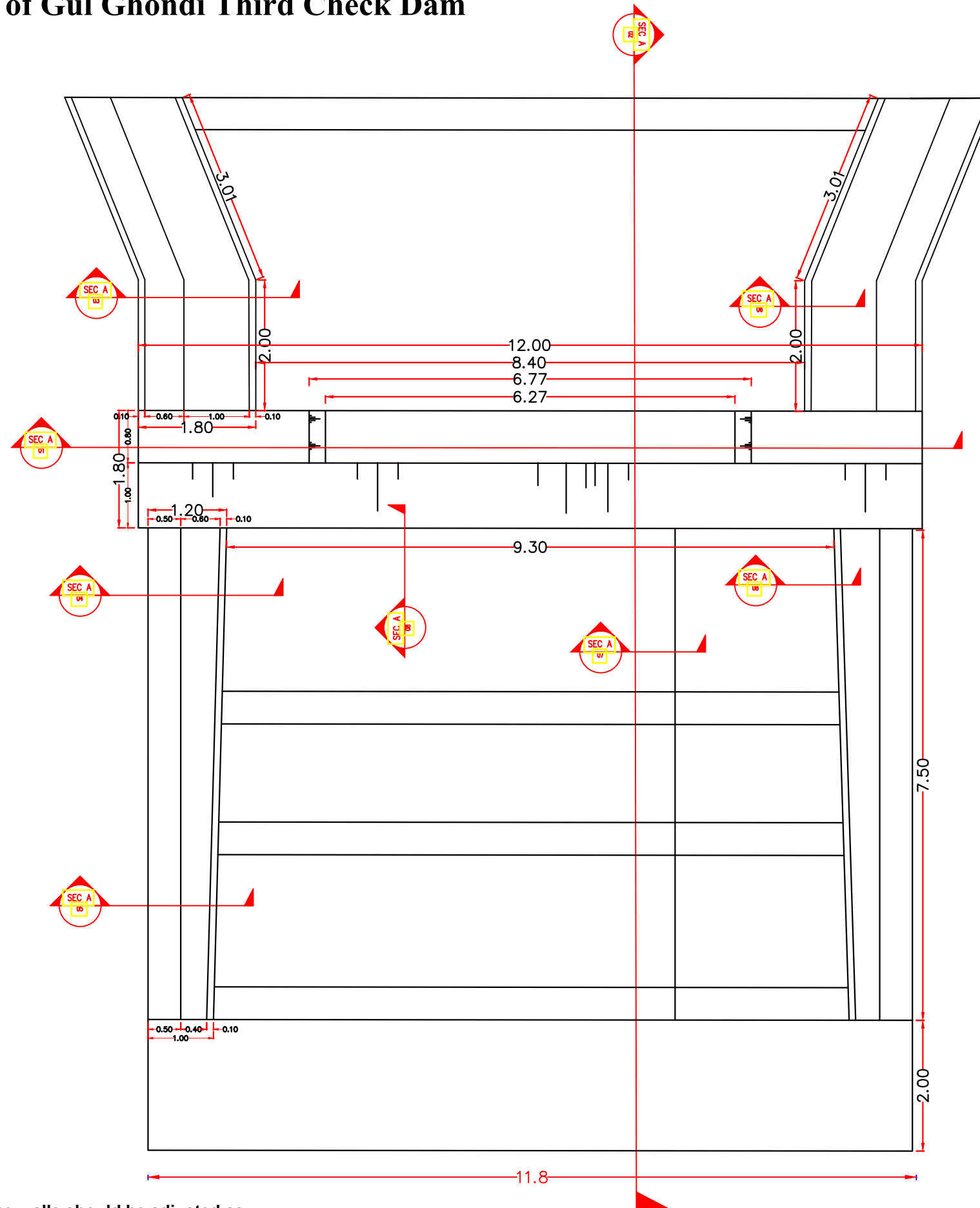
 Islamic Republic of Afghanistan	 National Water Affairs Regulation Authority	 Asian Development Bank (ADB)	 Central Project Management Office	Project	Drawing Content	Employer						DWG NO
				PWN-JSJ-002	Long Section of Check Dam # 4	Surveyed by :	Designed by:	Drawn by:	Checked by:	Croos Checked by:	Approved by:	22/25
						Abdul Waheed and Eishan	Faridoon Danesh	Faridoon Danesh	Eng. Muhammad Akram Paktinyar	Eng. Fardeen Azimi	Eng. Said Moqem Sadat	Date: Sep-2020

Cross section of Deh bala 2- Check Dam # 4 RD (0+030)







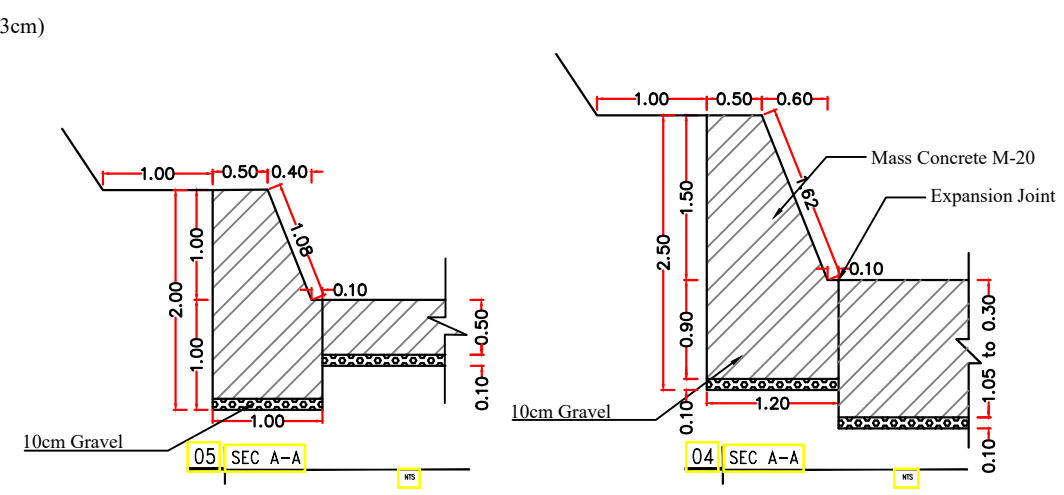
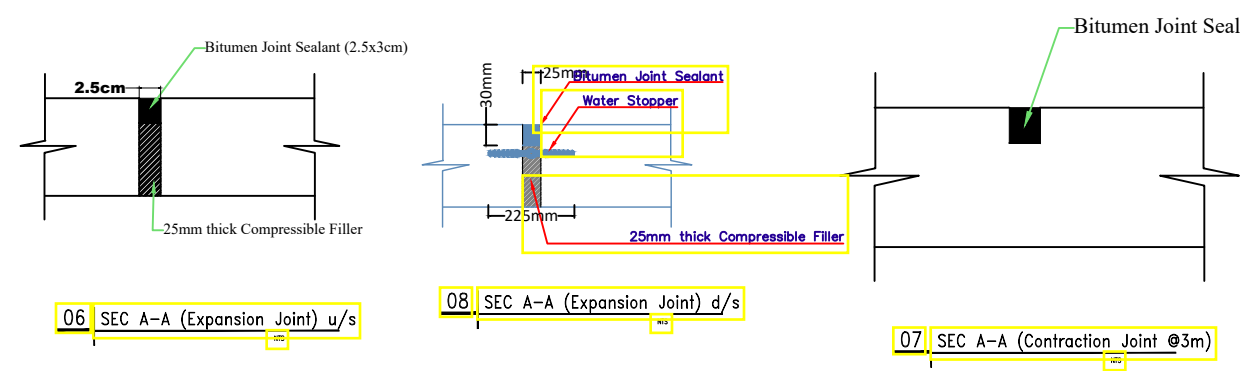
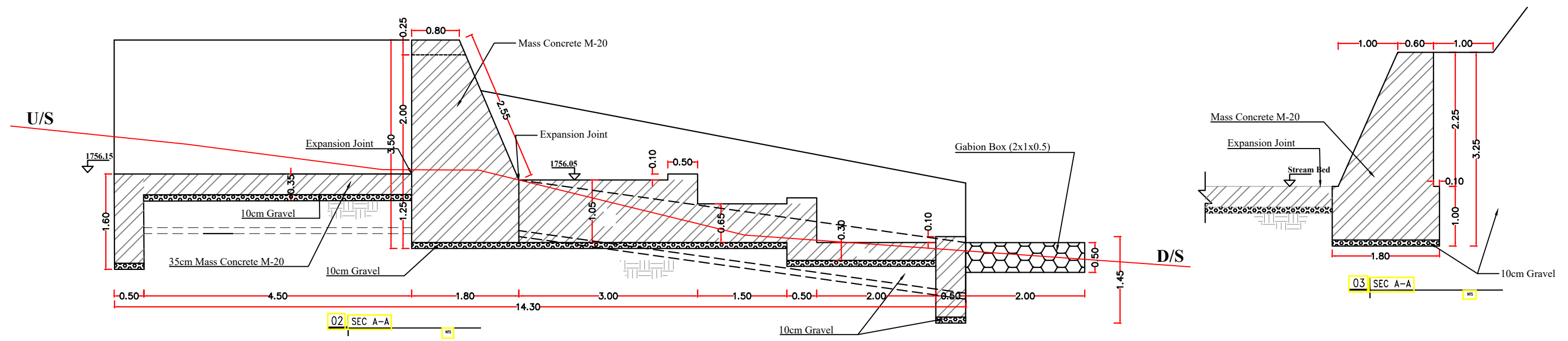
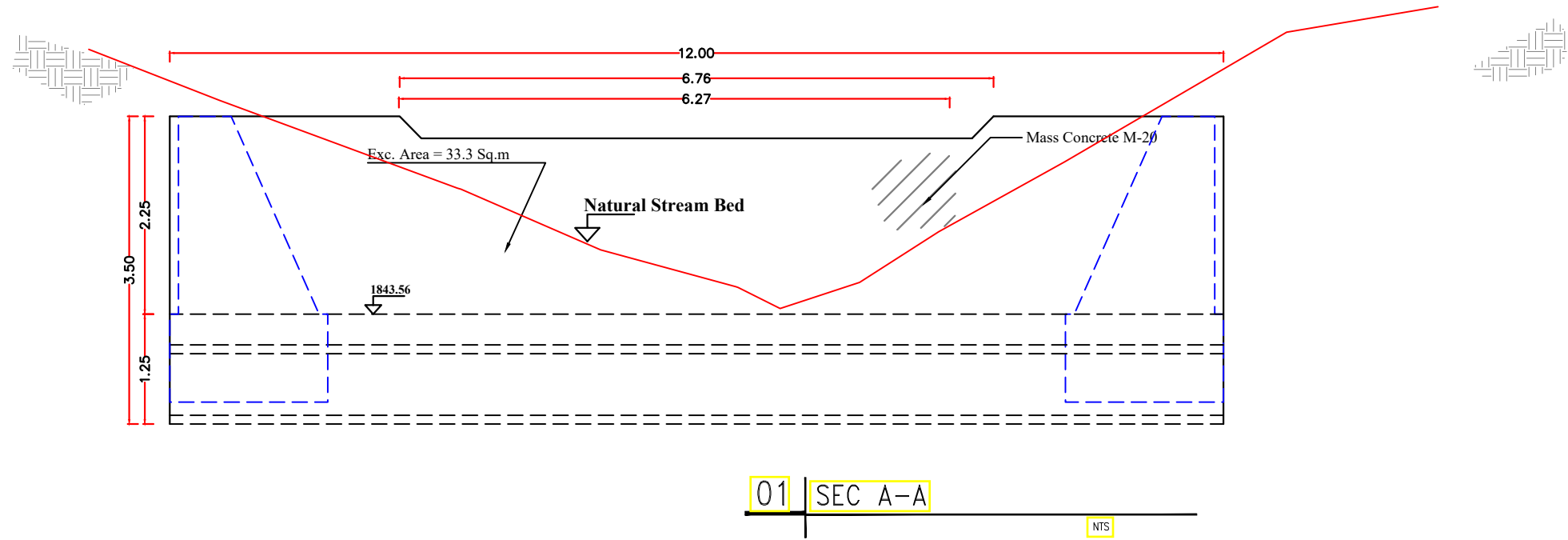
 Islamic Republic of Afghanistan	 National Water Affair Regulation Authority	 Asian Development Bank (ADB)	 Central Project Management Office	Project	Drawing Content	Employer						DWG NO
				PWN-JSJ-002	Cross Section of Check Dam # 4	Surveyed by : Abdul Waheed and Eishan	Designed by: Faridoon Danesh	Drawn by: Faridoon Danesh	Checked by: Eng. Muhammad Akram Paktinyar	Croos Checked by: Eng. Fardeen Azimi	Approved by: Eng. Said Moqeeem Sadat	23/25 Date: Sep-2020

Plan of Gul Ghondi Third Check Dam



The angle of the wing walls should be adjusted as the site condition

 Islamic Republic of Afghanistan	 National Water Affair Regulation Authority	 Asian Development Bank (ADB)	 Central Project Management Office	Project	Drawing Content	Employer					DWG NO
				PWN-JSJ-002	Plan of Check Dam # 4	Surveyed by : Abdul Waheed and Eishan	Designed by: Faridoon Danesh	Drawn by: Faridoon Danesh	Checked by: Eng. Muhammad Akram Paktinyar	Croos Checked by: Eng. Fardeen Azimi	Approved by: Eng. Said Moqem Sadat



 Islamic Republic of Afghanistan	 National Water Affair Regulation Authority	 Asian Development Bank (ADB)	 Central Project Management Office	Project	Drawing Content	Employer					DWG NO
				PWN-JSJ-002	Sections of Check Dam # 4	Surveyed by : Abdul Waheed and Eishan	Designed by: Faridoon Danesh	Drawn by: Faridoon Danesh	Checked by: Eng. Muhammad Akram Paktinyar	Cross Checked by: Eng. Fardeen Azimi	Approved by: Eng. Said Moqem Sadat