



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

Posht Qomandani 6 Check Dams (PWN-CKR-001)





Project DRAWINGS

Sep – 2020


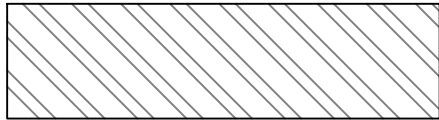
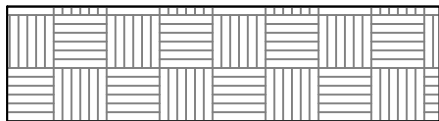
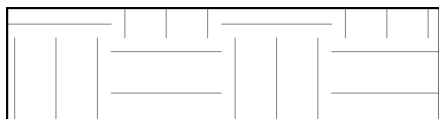
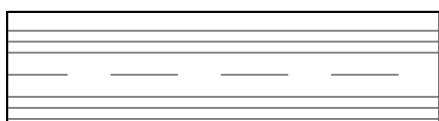
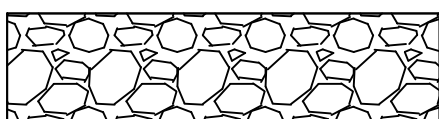
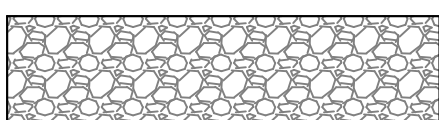
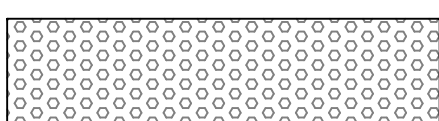
TECHNICAL SPECIFICATIONS





- 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.

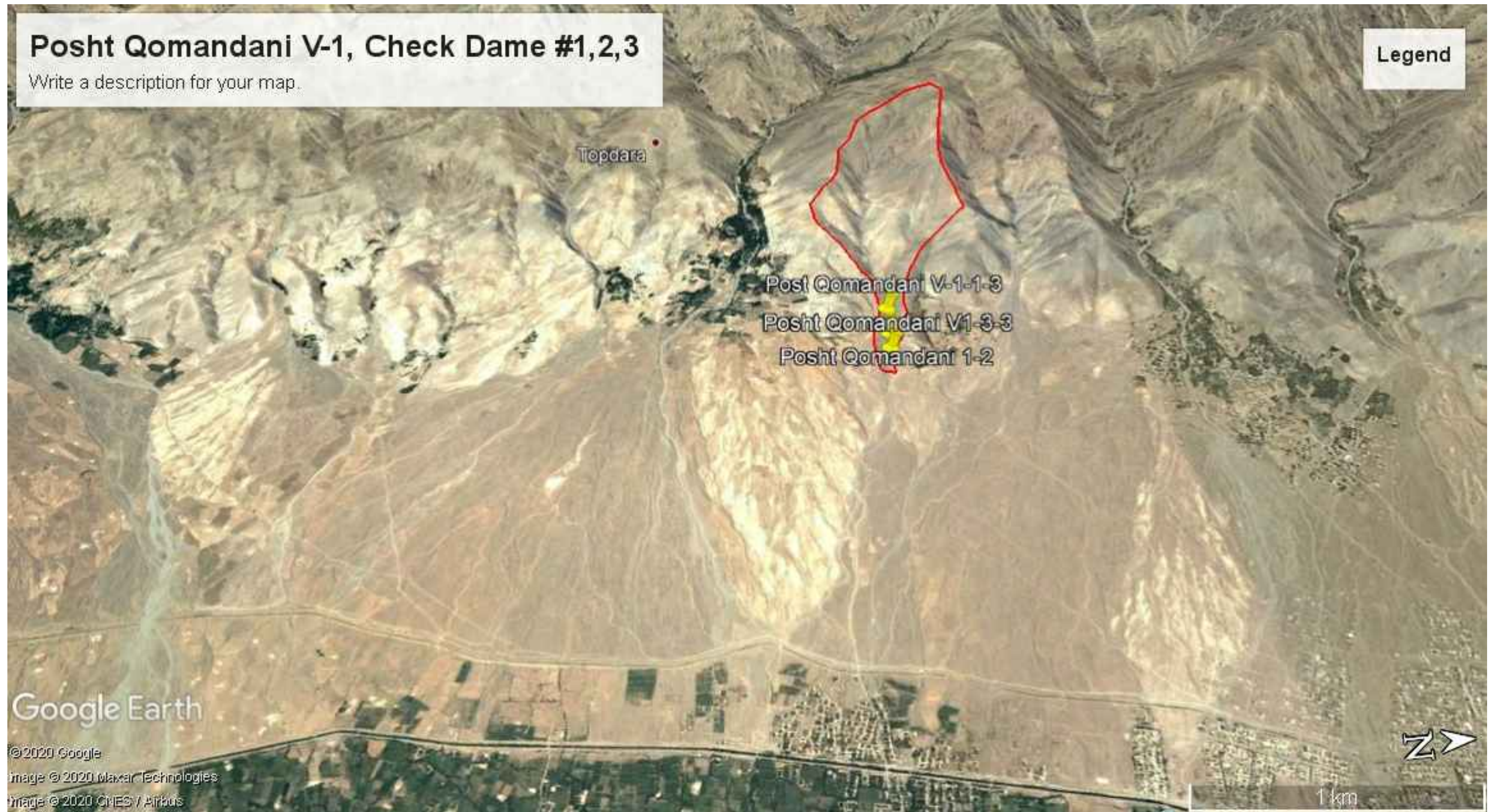
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 Islamic Republic of Afghanistan	 National Water Affair Regulation Authority	 Asian Development Bank (ADB)	 Central Project Management Office	PWN-CKR-001	Technical Specification	Surveyed by :	Designed by:	Drawn by:	Checked by:	Croos Checked by:	Approved 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





Legend Table

	Slope
	Mass concrete
	Compacted Backfilling
	Ground
	Embankment Backfilling
	Dry Stone pitching
	Gravel
	Gravel Filter

 Islamic Republic of Afghanistan	 National Water Affair Regulation Authority	 Asian Development Bank (ADB)	 Central Project Management Office	Project	Drawing Content	Employer					DWG NO	
				PWN-CKR-001	Legend Table	Surveyed by :	Designed by:	Drawn by:	Checked by:	Croos Checked by:	Approved by:	2/24
						Abdul Waheed and Eishan	Faridoon Danesh	Faridoon Danesh	Eng. Muhammad Akram Paktinyar	Eng. Fardeen Azimi	Eng. Said Moqees Sadat	Date: Sep-2020

Google Map Back Police H.Q 1st Valley Check Dams

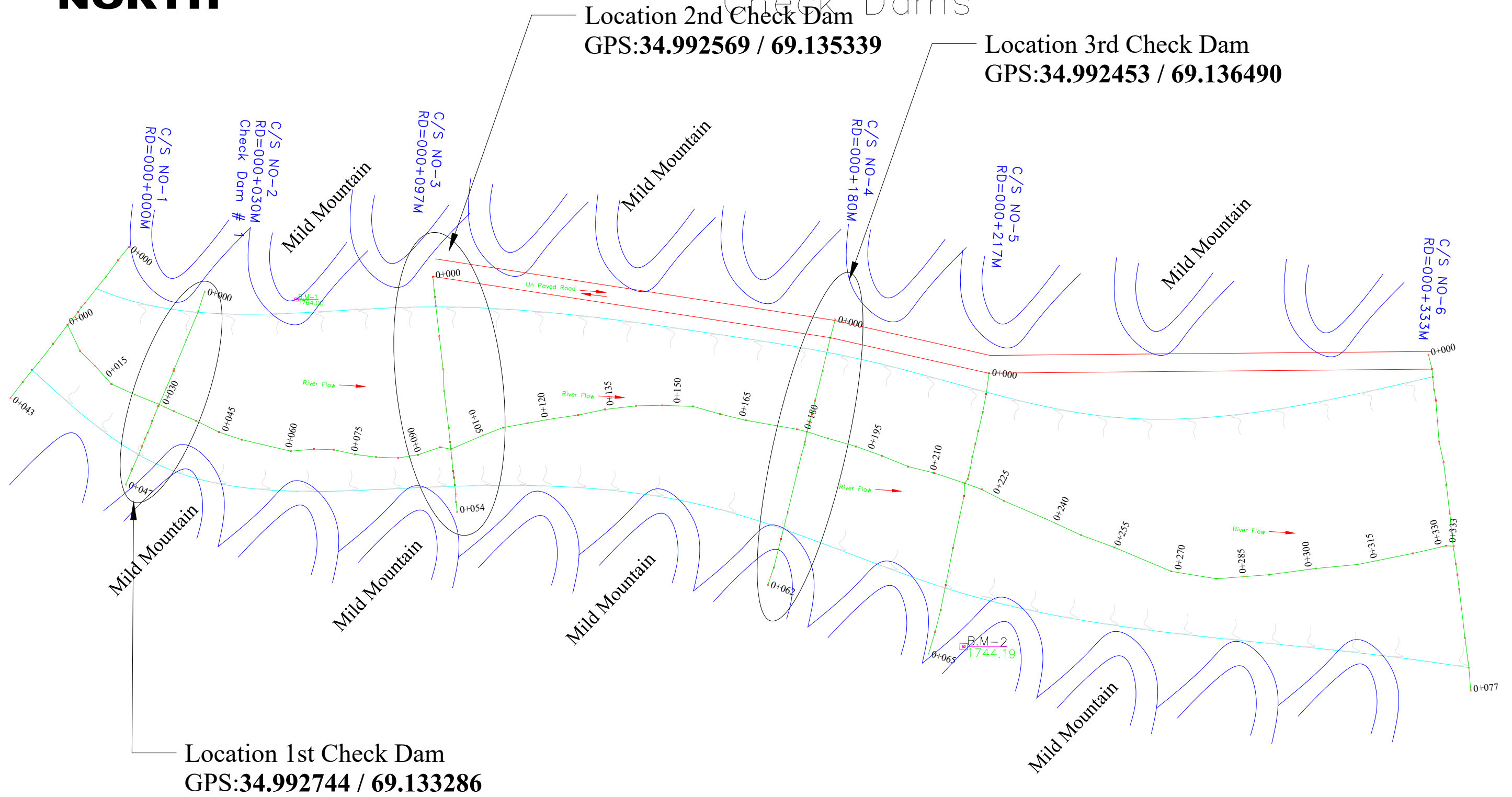


 Islamic Republic of Afghanistan	 National Water Affair Regulation Authority	 Asian Development Bank (ADB)	 Central Project Management Office	Project	Drawing Content	Employer					DWG NO
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				Abdul Husain and Eishan	Faridoon Danesh	Faridoon Danesh	Eng. Muhammad Akram Paktinyar	Eng. Fardeen Azimi	Eng. Said Moqem Sadat	3/24 Sep-2020	



Site Plan Back of Police H.Q 1st Valley





Check Dams



Location 2nd Check Dam
GPS:34.992569 / 69.135339

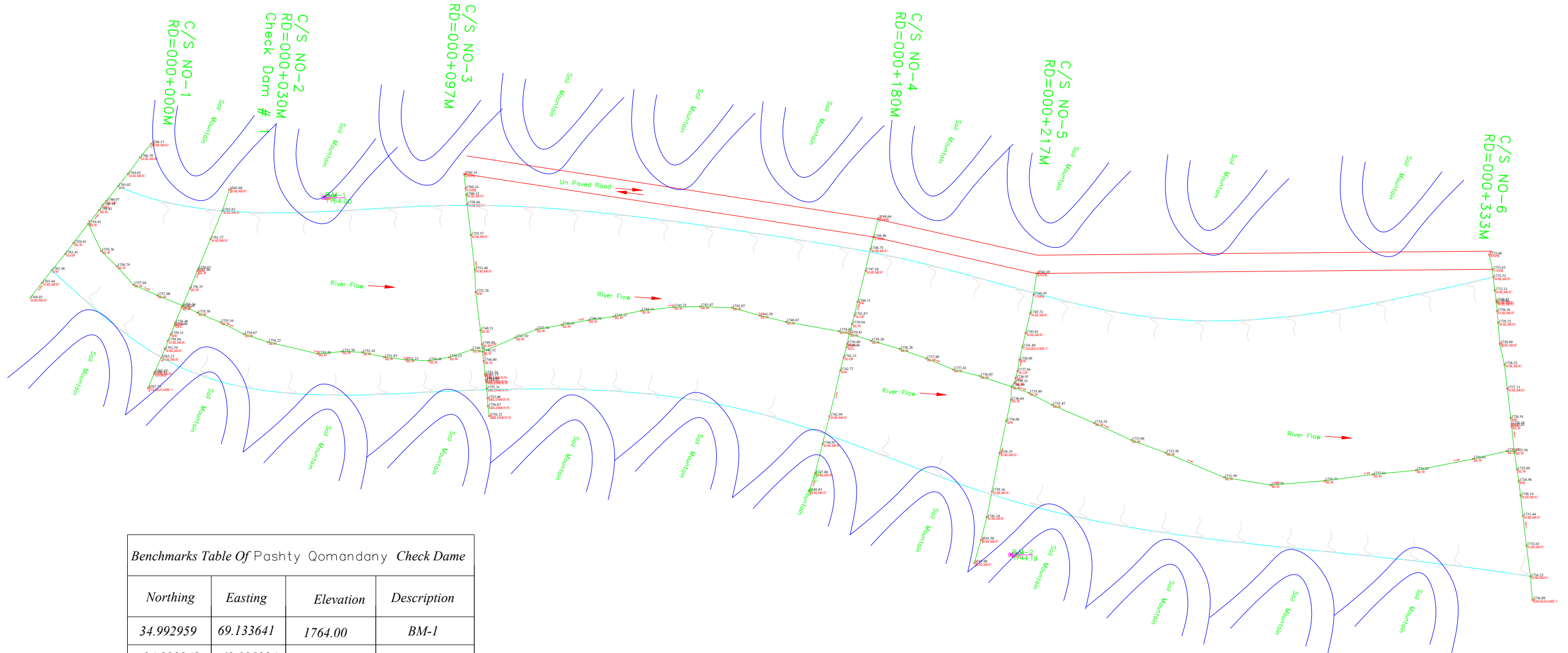
Location 3rd Check Dam
GPS:34.992453 / 69.136490

Location 1st Check Dam
GPS:34.992744 / 69.133286

 Islamic Republic of Afghanistan	 National Water Affair Regulation Authority	 Asian Development Bank (ADB)	 Central Project Management Office	Project	Drawing Content	Employer					DWG NO
				PWN-CKR-001	Site Plan - 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 Moqeesm Sadat







Topographical Map Back of Police H.Q 1st Valley Check Dams



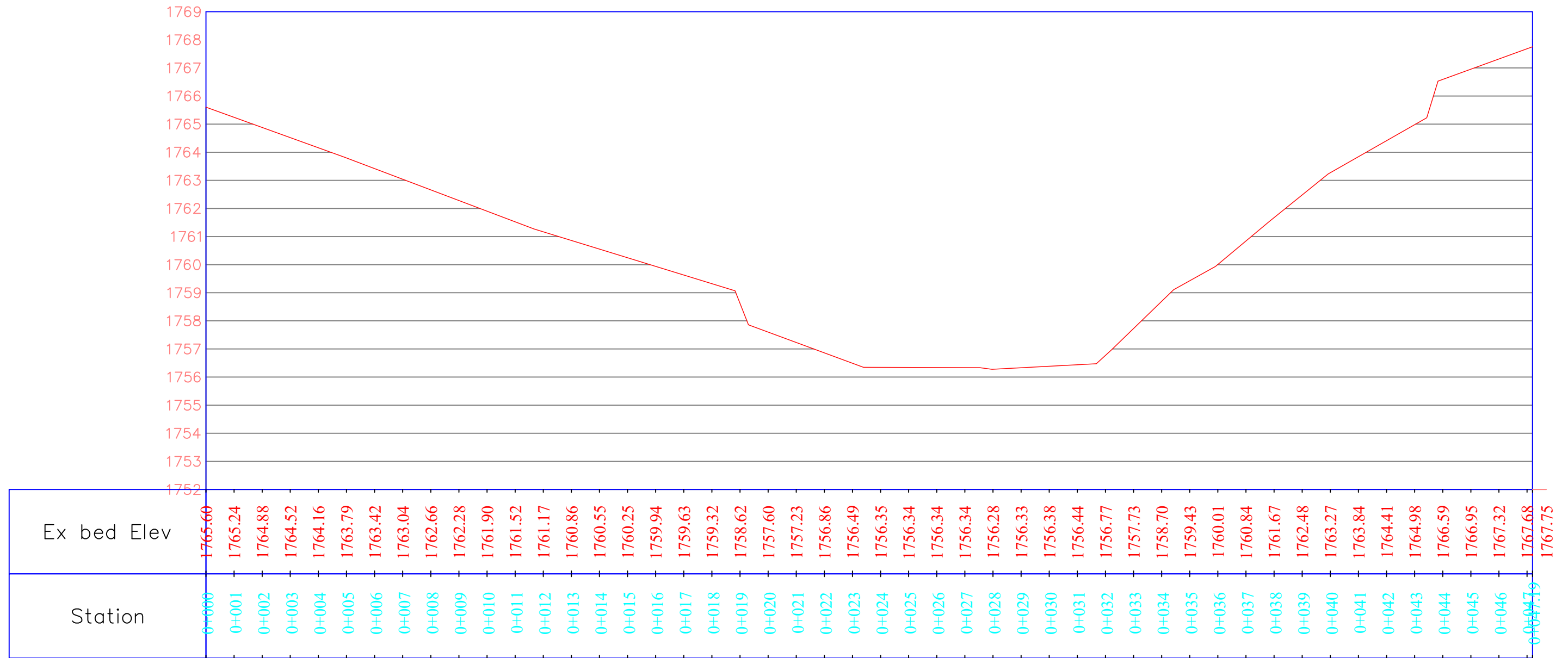
Benchmarks Table Of Pashty Qomandany Check Dame

Northing	Easting	Elevation	Description
34.992959	69.133641	1764.00	BM-1
34.992248	69.135294	1744.19	BM-2

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

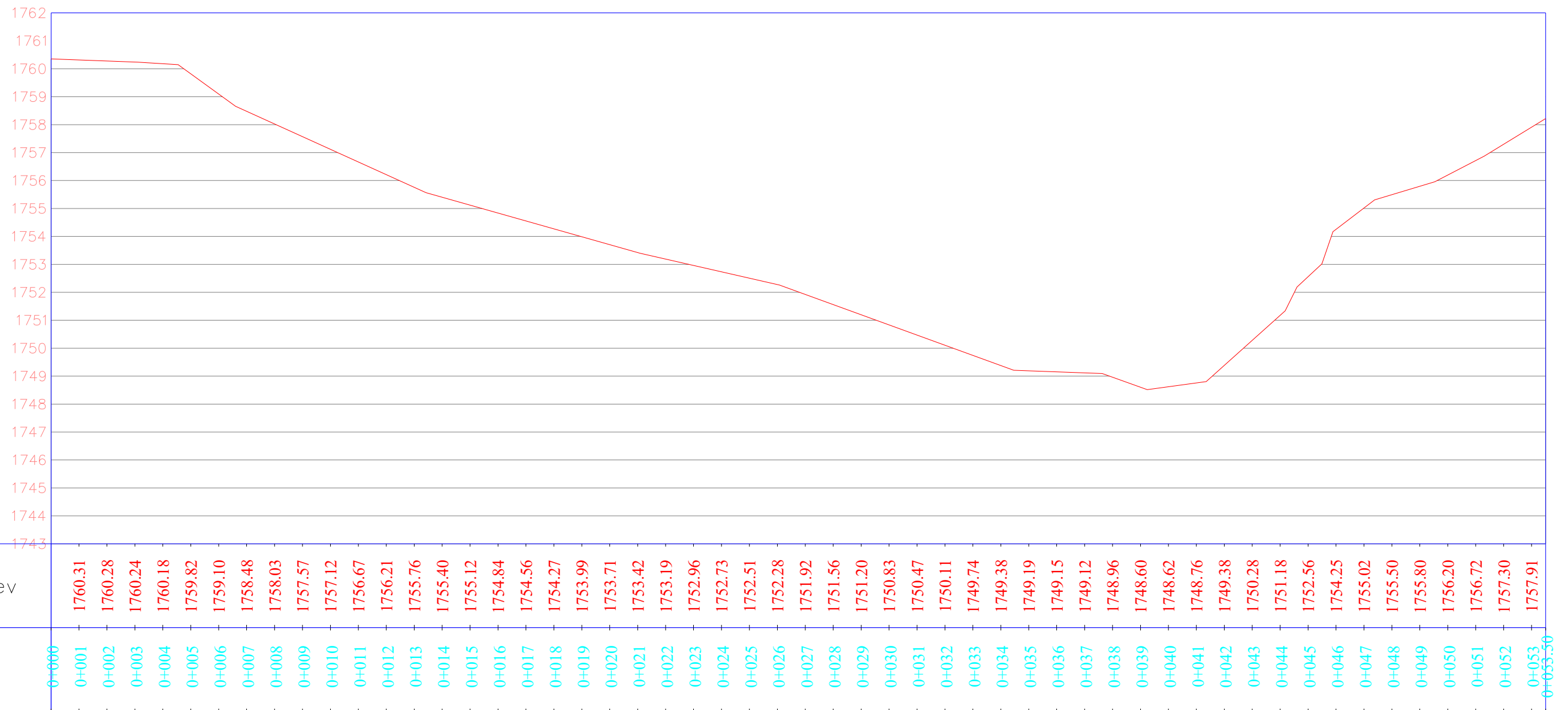
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						Abdul Waheed and Eishan	Faridoon Danesh	Faridoon Danesh	Eng. Muhammad Akram Paktinyar	Eng. Fardeen Azimi	Eng. Said Moqem Sadat	Date: Sep-2020





Cross Section Back of Police H.Q 1st Valley 1st Check Dam (0+030)



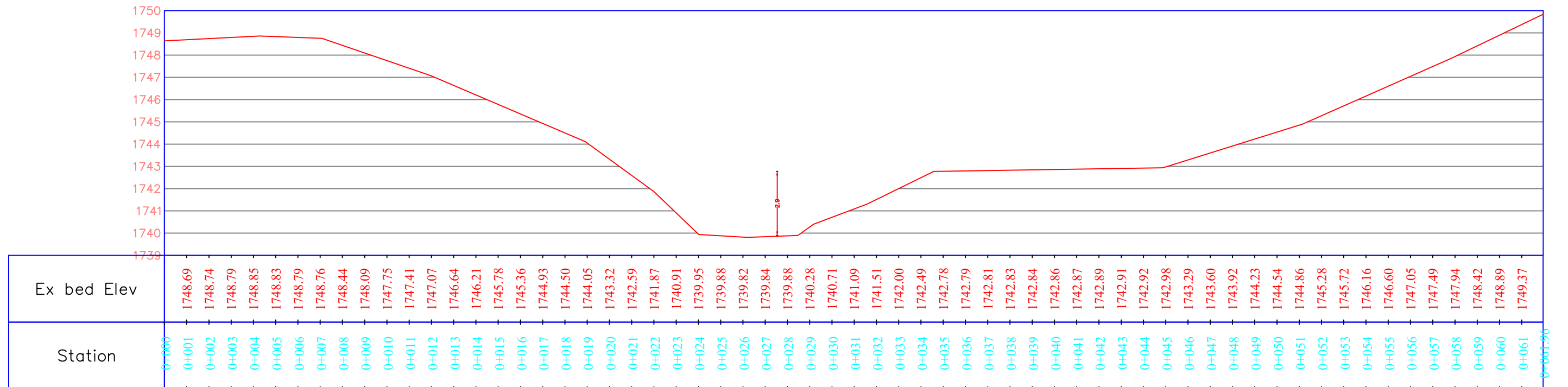
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						Abdul Waheed and Eishan	Faridoon Danesh	Faridoon Danesh	Eng. Muhammad Akram Paktinyar	Eng. Fardeen Azimi	Eng. Said Moqem Sadat	Date: Sep-2020





Cross Section Back of Police H.Q 1st Valley 2nd Check Dam (0+097)



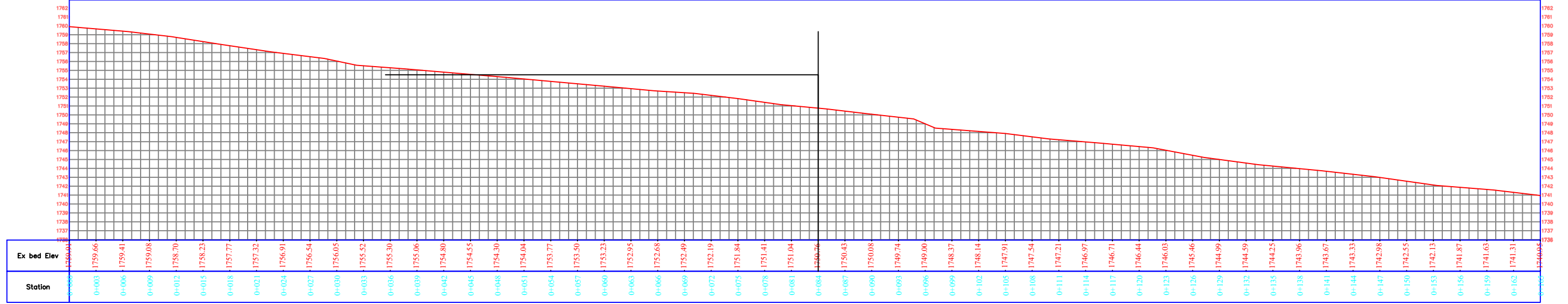
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						Abdul Waheed and Eishan	Faridoon Danesh	Faridoon Danesh	Eng. Muhammad Akram Paktinyar	Eng. Fardeen Azimi	Eng. Said Moqeen Sadat	Date: Sep-2020

Cross Section Back of Police H.Q 1st Valley 3rd Check Dam (0+180)

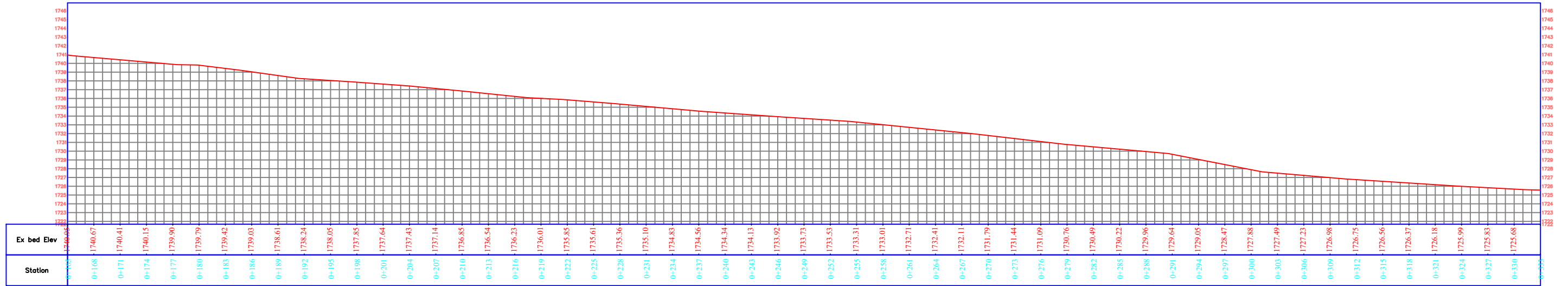






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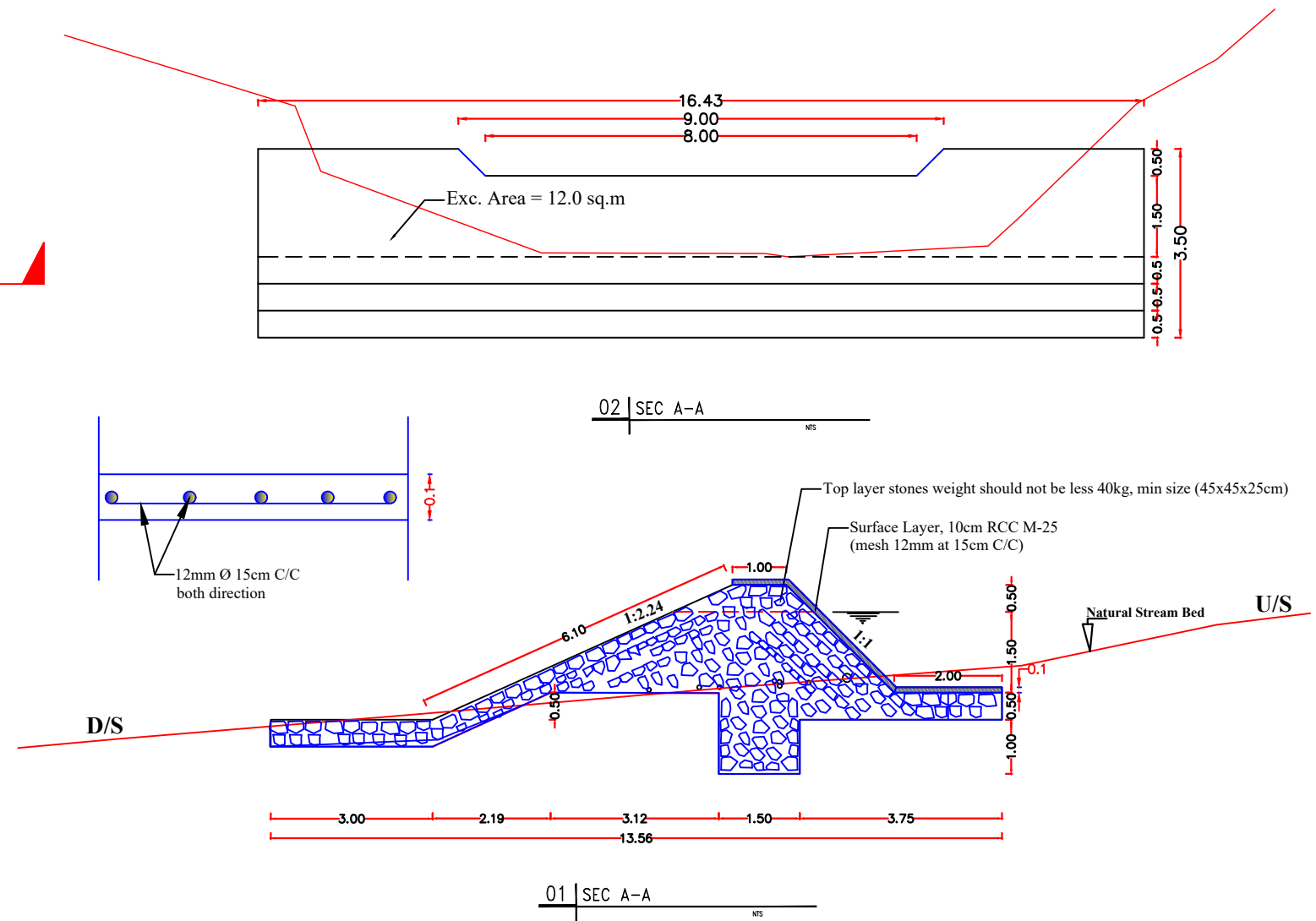
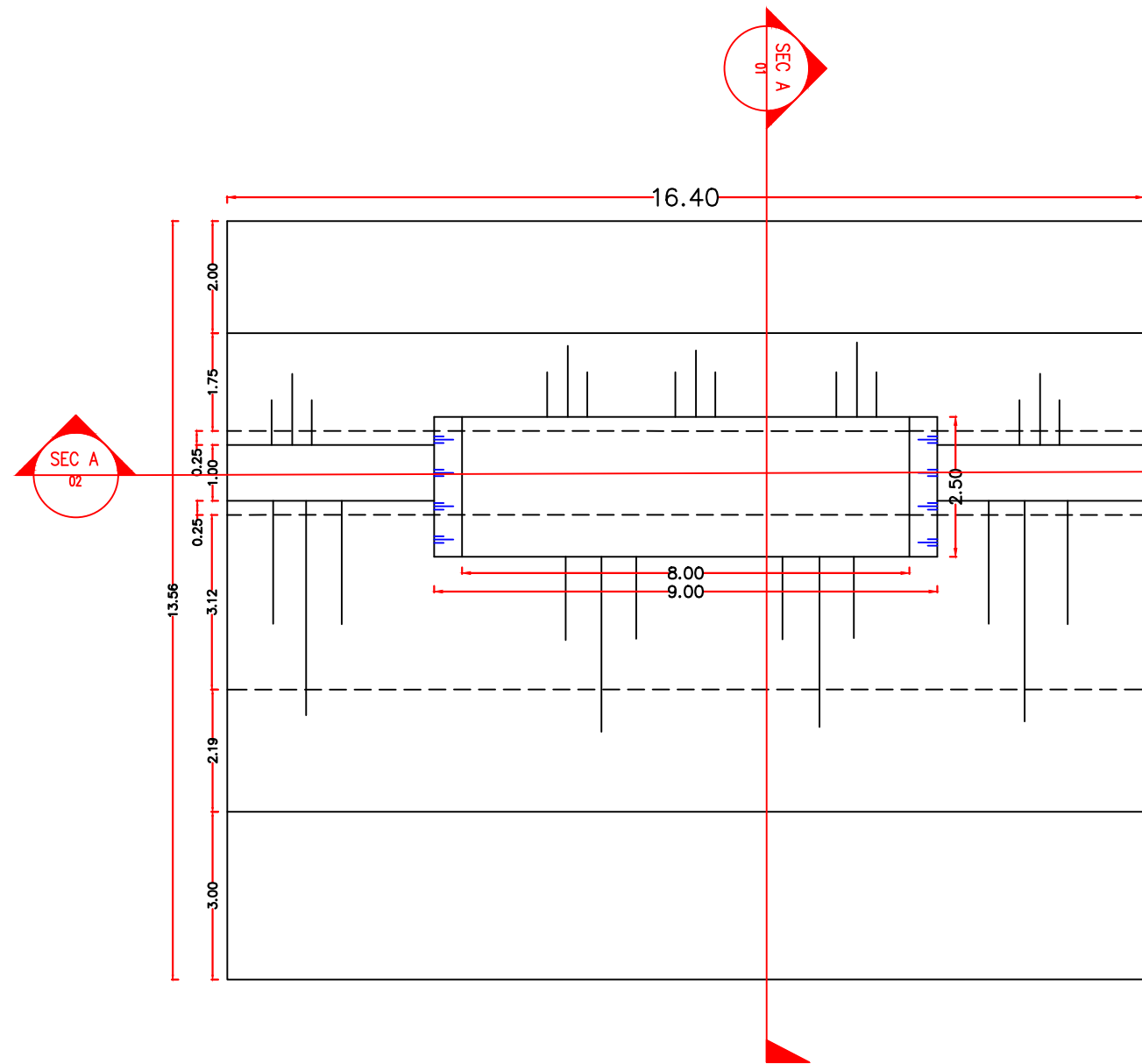
Longitudinal Profile Back of Police H.Q 1st Valley Check Dams
(0+165)



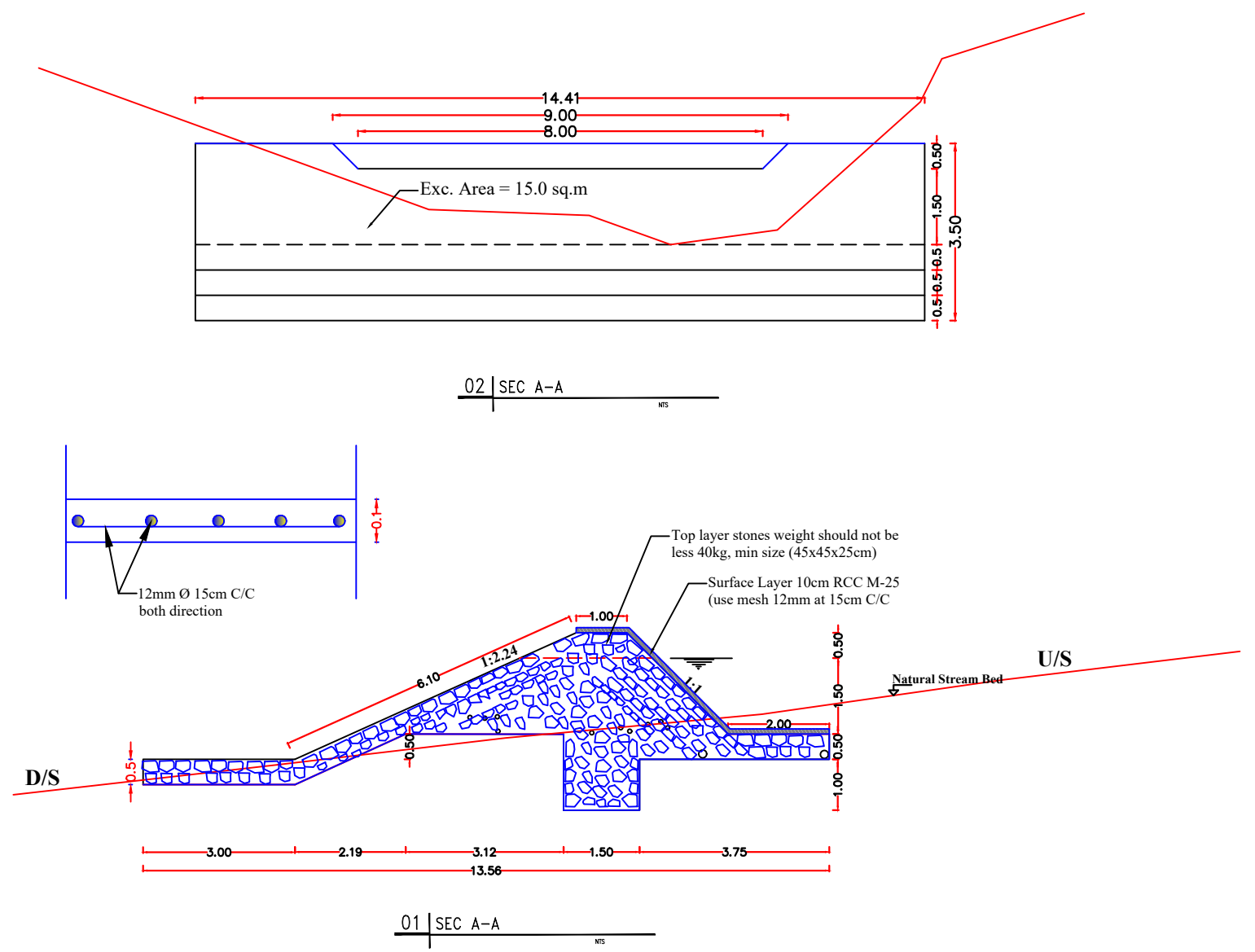
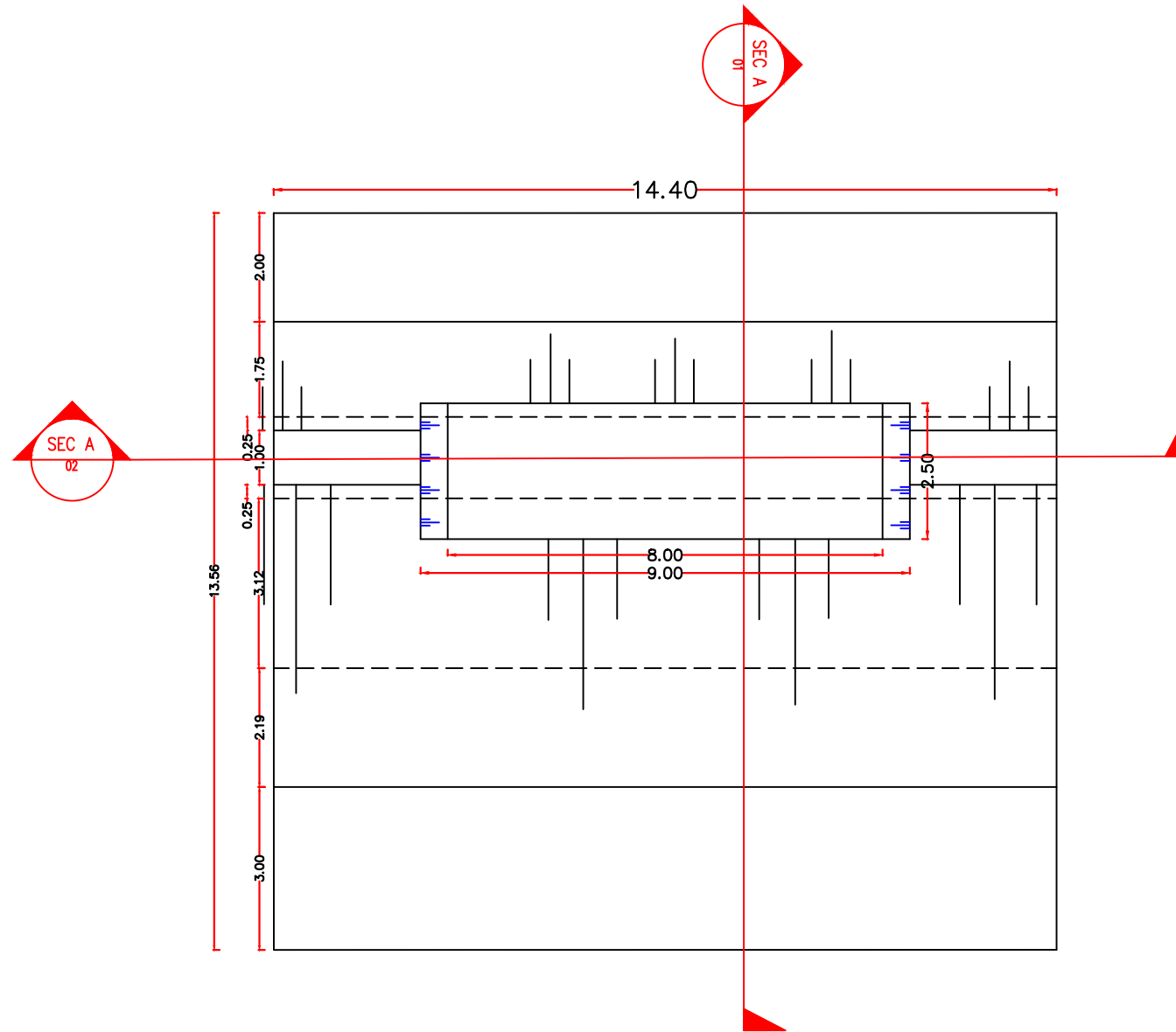
Longitudinal Profile Back of Police H.Q 1st Valley Check Dams
(0+165 to 0+333)



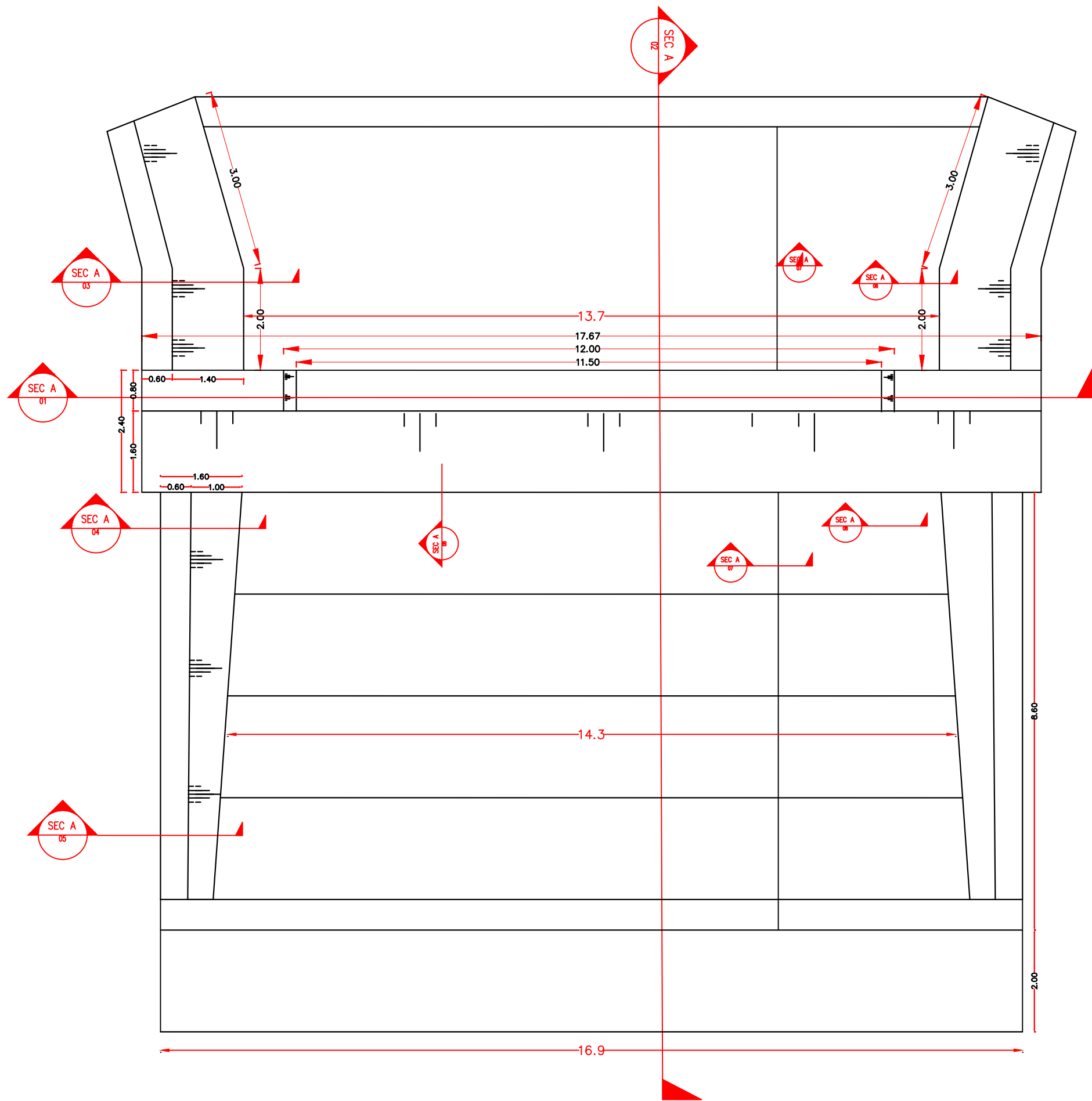
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											Date: Sep-2020







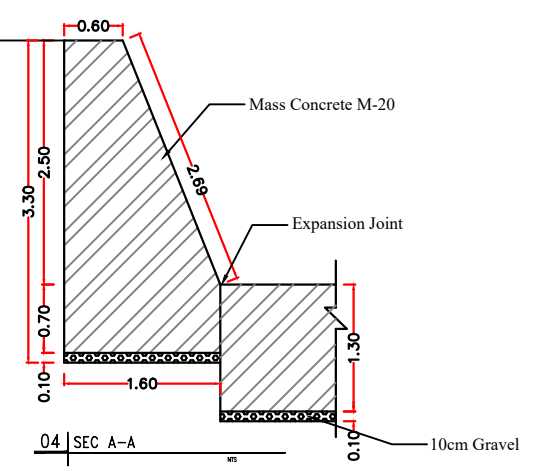
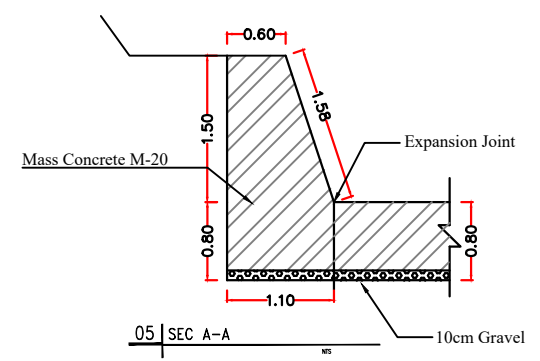
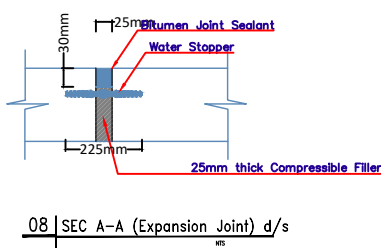
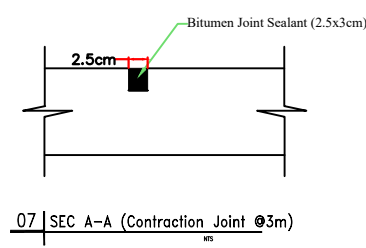
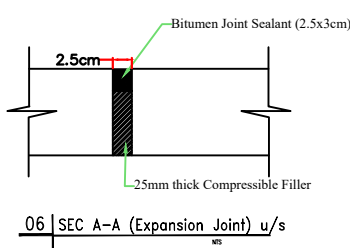
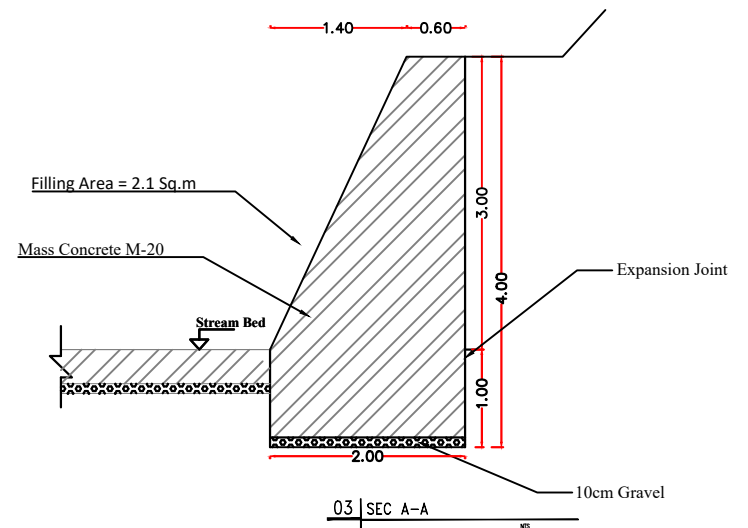
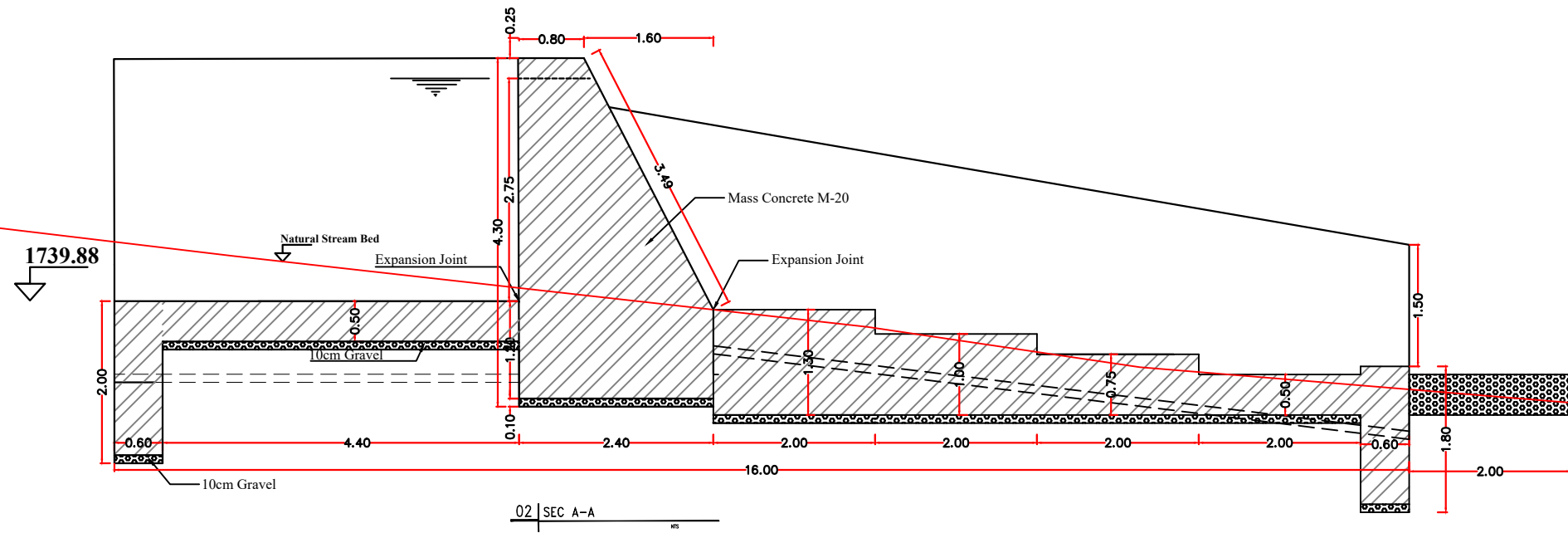
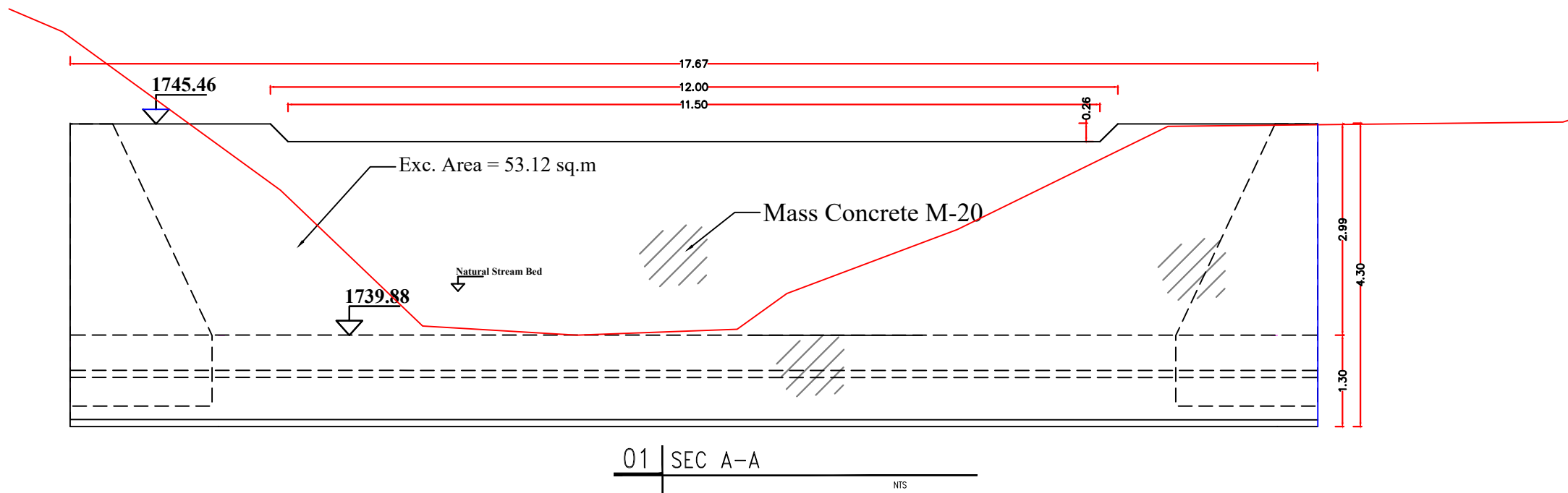
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PWN-CRK-001	Plan Check Dam #1	Abdul Waheed and Eishan	Faridoon Danesh	Faridoon Danesh	Eng. Muhammad Akram Paktinyar	Eng. Fardeen Azimi	Eng. Said Moqem Sadat	10/24 Date: Sep-2020







Project	Drawing Content	Employer					DWG NO	
		Surveyed by :	Designed by:	Drawn by:	Checked by:	Cross Checked by:		Approved by:
PWN-CRK-001	Section D-D, JOINTS Check Dam # 1	Abdul Waheed and Eishan	Faridoon Danesh	Faridoon Danesh	Eng. Muhammad Akram Paktinyar	Eng. Fardeen Azimi	Eng. Said Moqees Sadat	11/24 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-CRK-001	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



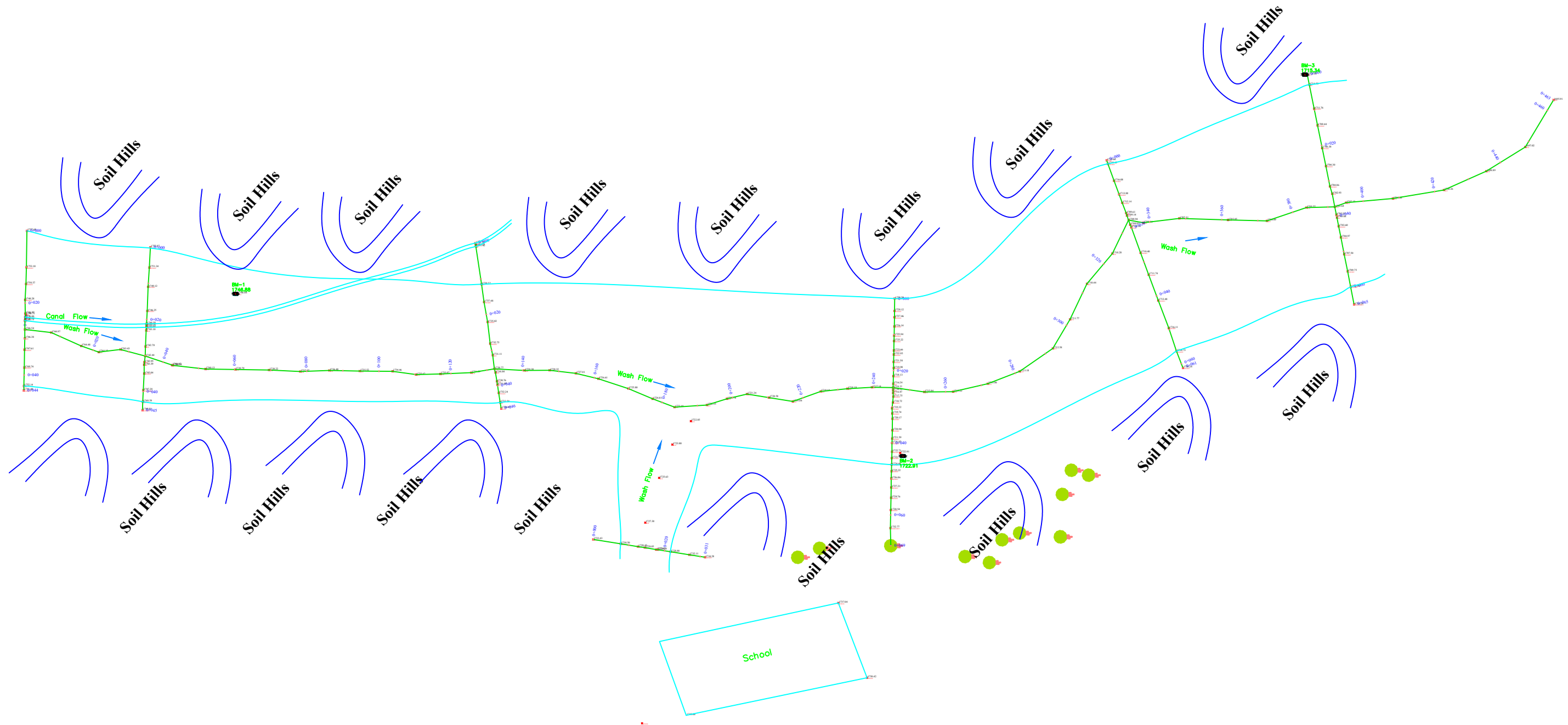
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				PWN-CRK-001	Sections, Joints Check Dam # 3	Surveyed by : Abdul Waheed and Eishan	Designed by: Faridoon Danesh	Drawn by: Faridoon Danesh	Checked by: Eng. Muhammad Akram Paktinyar	Cross Checked by: Eng. Fardeen Azimi	Approved by: Eng. Said Moqem Sadat

Google Map Back of Police H.Q 2nd Valley Check Dams





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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-CRK-001	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 Moqeen Sadat	Date: Sep-2020

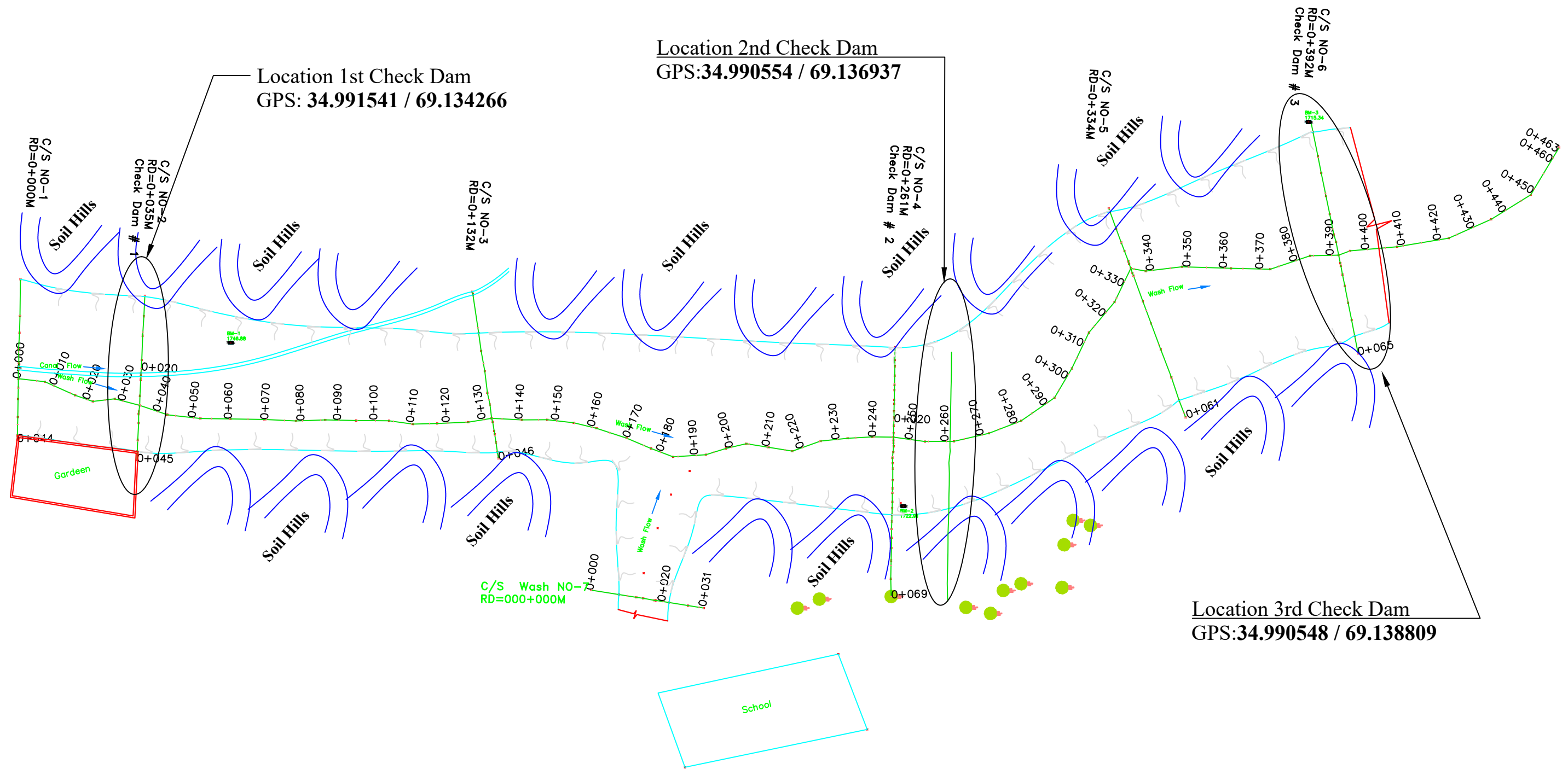
Topographical Map Back of Police H.Q 2nd Valley Check Dams







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-CRK-001	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

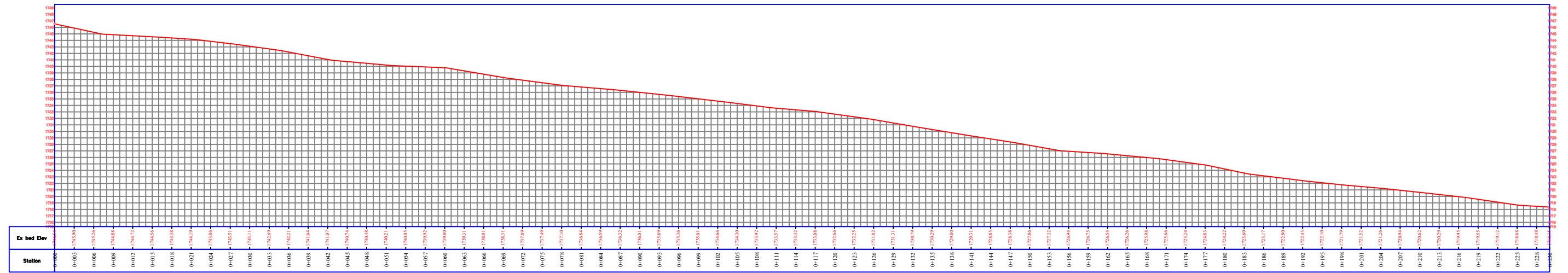
Site Plan Back of Police H.Q 2nd Valley Check Dams



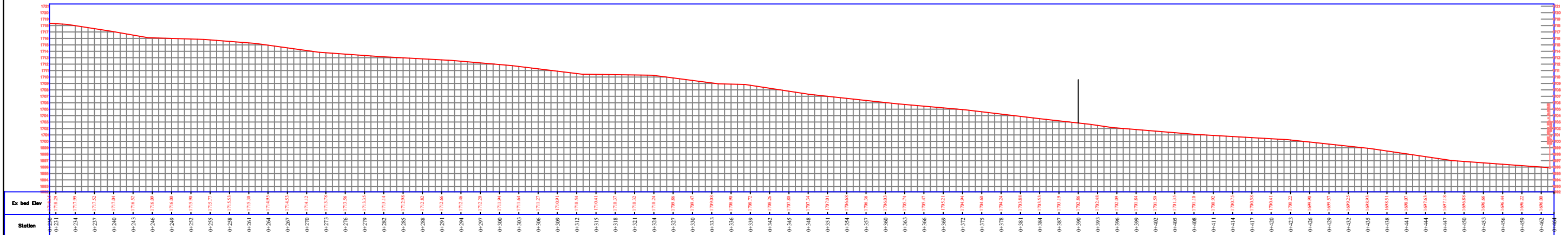
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All Dimension Shown in (m)





 Islamic Republic of Afghanistan	 National Water Affair Regulation Authority	 Asian Development Bank (ADB)	 Central Project Management Office	Project	Drawing Content	Employer					DWG NO
				PWN-CRK-001	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

Longitudinal Profile Back of Police H.Q 2nd Valley Check Dams (0+000 to 0+230)

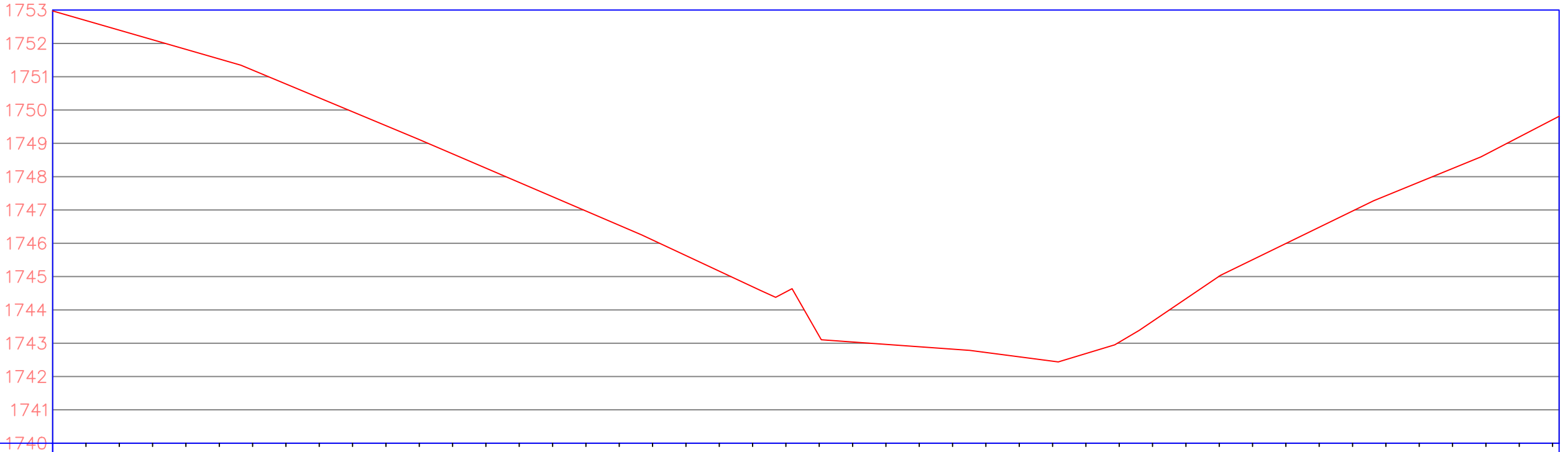


Longitudinal Profile Back of Police H.Q 2nd Valley Check Dams (0+230 to 0+463)







 Islamic Republic of Afghanistan	 National Water Affair Regulation Authority	 Asian Development Bank (ADB)	 Central Project Management Office	Project	Drawing Content	Employer					DWG NO
				PWN-CRK-001	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 Moqem Sadat

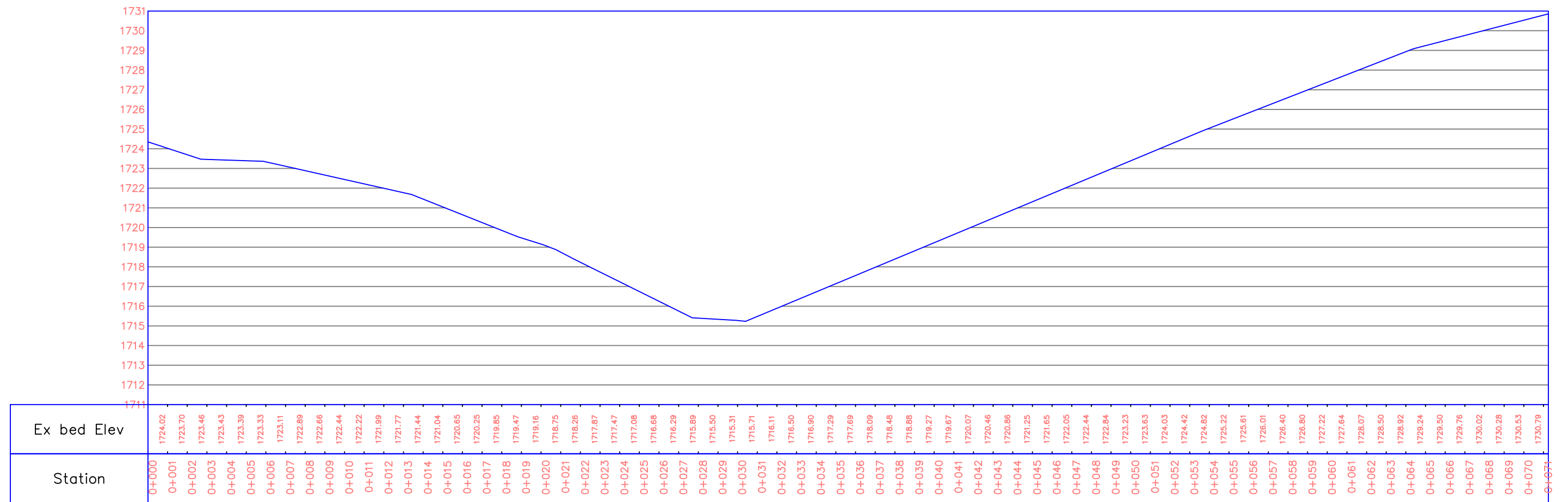
Cross Section Back of Police H.Q 2nd Valley 1st Check Dam (0+035)







Ex bed Elev	1752.69	1752.40	1752.11	1751.82	1751.53	1751.20	1750.78	1750.36	1749.95	1749.53	1749.11	1748.68	1748.26	1747.83	1747.40	1746.97	1746.54	1746.10	1745.63	1745.16	1744.70	1744.54	1743.21	1743.04	1742.97	1742.89	1742.82	1742.72	1742.59	1742.46	1742.69	1743.03	1743.66	1744.34	1745.01	1745.51	1745.99	1746.48	1746.97	1747.43	1747.84	1748.25	1748.67	1749.19	1749.71	
Station	0+000	0+001	0+002	0+003	0+004	0+005	0+006	0+007	0+008	0+009	0+010	0+011	0+012	0+013	0+014	0+015	0+016	0+017	0+018	0+019	0+020	0+021	0+022	0+023	0+024	0+025	0+026	0+027	0+028	0+029	0+030	0+031	0+032	0+033	0+034	0+035	0+036	0+037	0+038	0+039	0+040	0+041	0+042	0+043	0+044	0+045

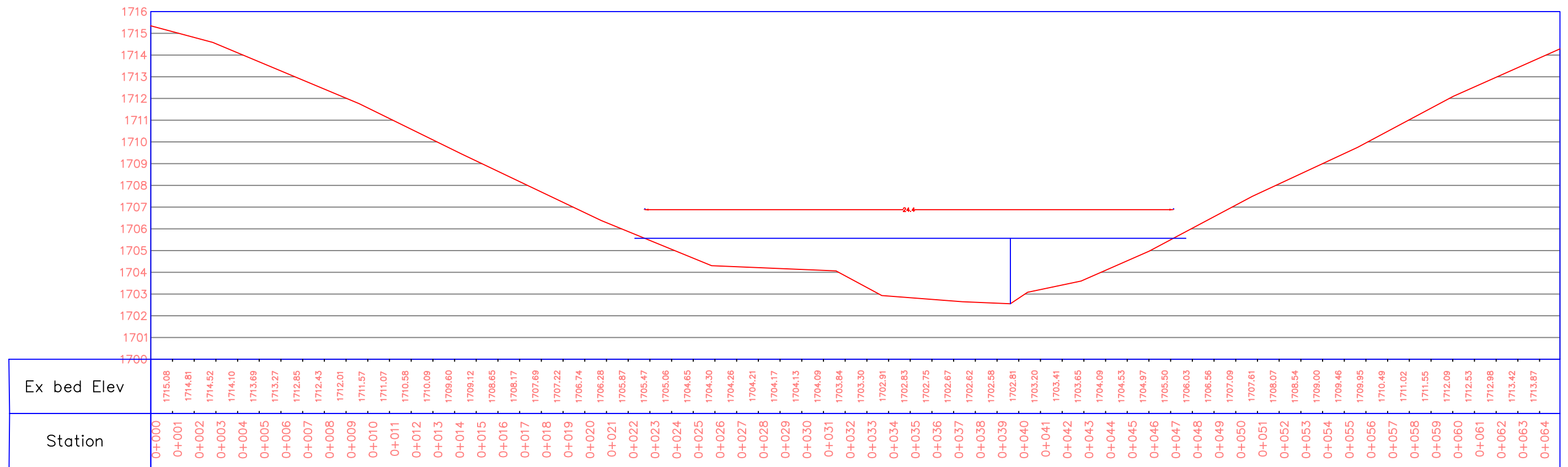
 Islamic Republic of Afghanistan	 National Water Affair Regulation Authority	 Asian Development Bank (ADB)	 Central Project Management Office	Project	Drawing Content	Employer					DWG NO	
				PWN-CRK-001	Cross Section Check Dam # 4	Surveyed by :	Designed by:	Drawn by:	Checked by:	Croos Checked by:	Approved by:	18/24
						Abdul Waheed and Eishan	Faridoon Danesh	Faridoon Danesh	Eng. Muhammad Akram Paktinyar	Eng. Fardeen Azimi	Eng. Said Moqem Sadat	Date: Sep-2020





Cross Section Back of Police H.Q 2nd Valley 2nd Check Dam (0+261)

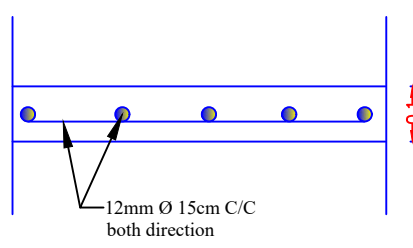
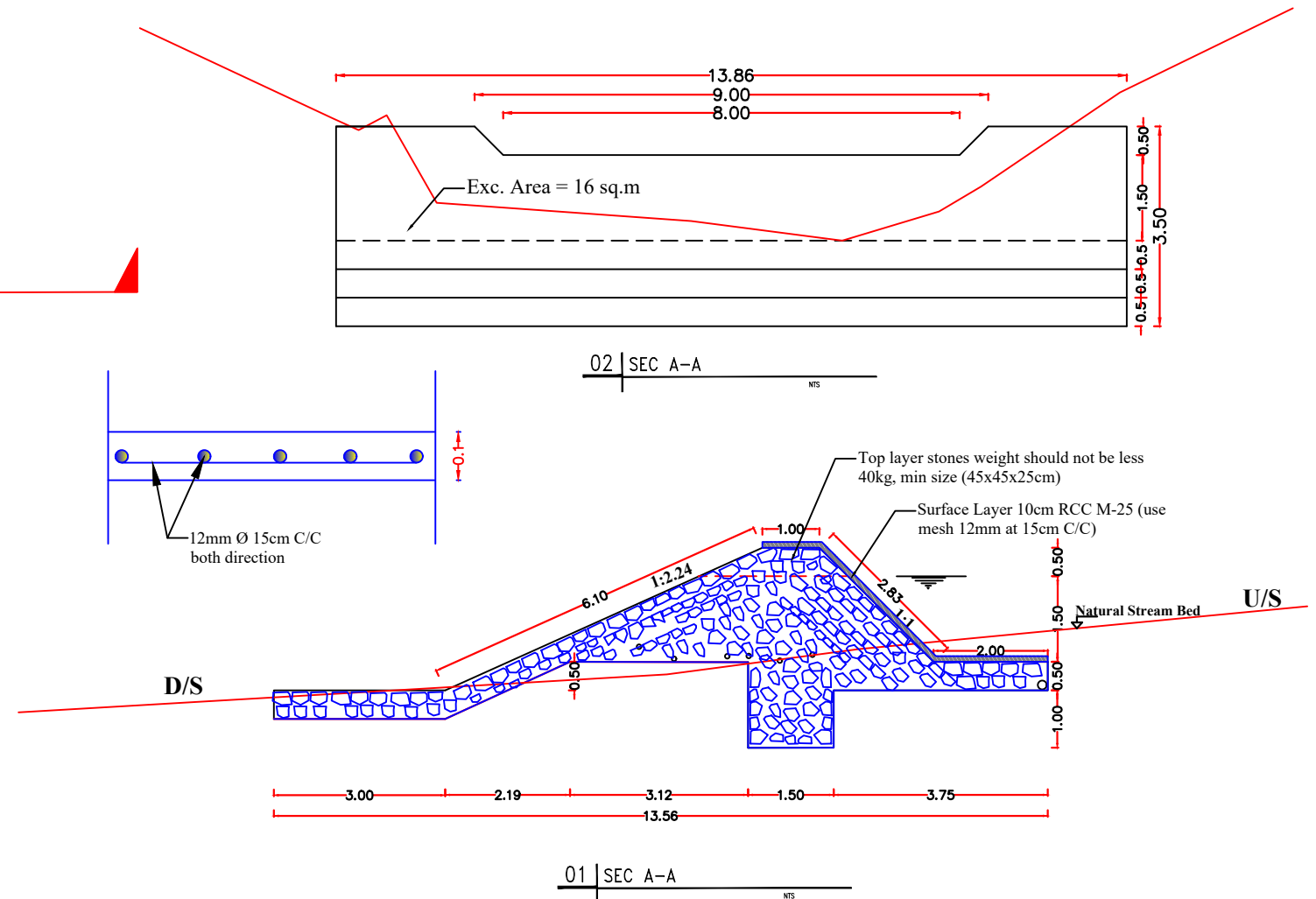
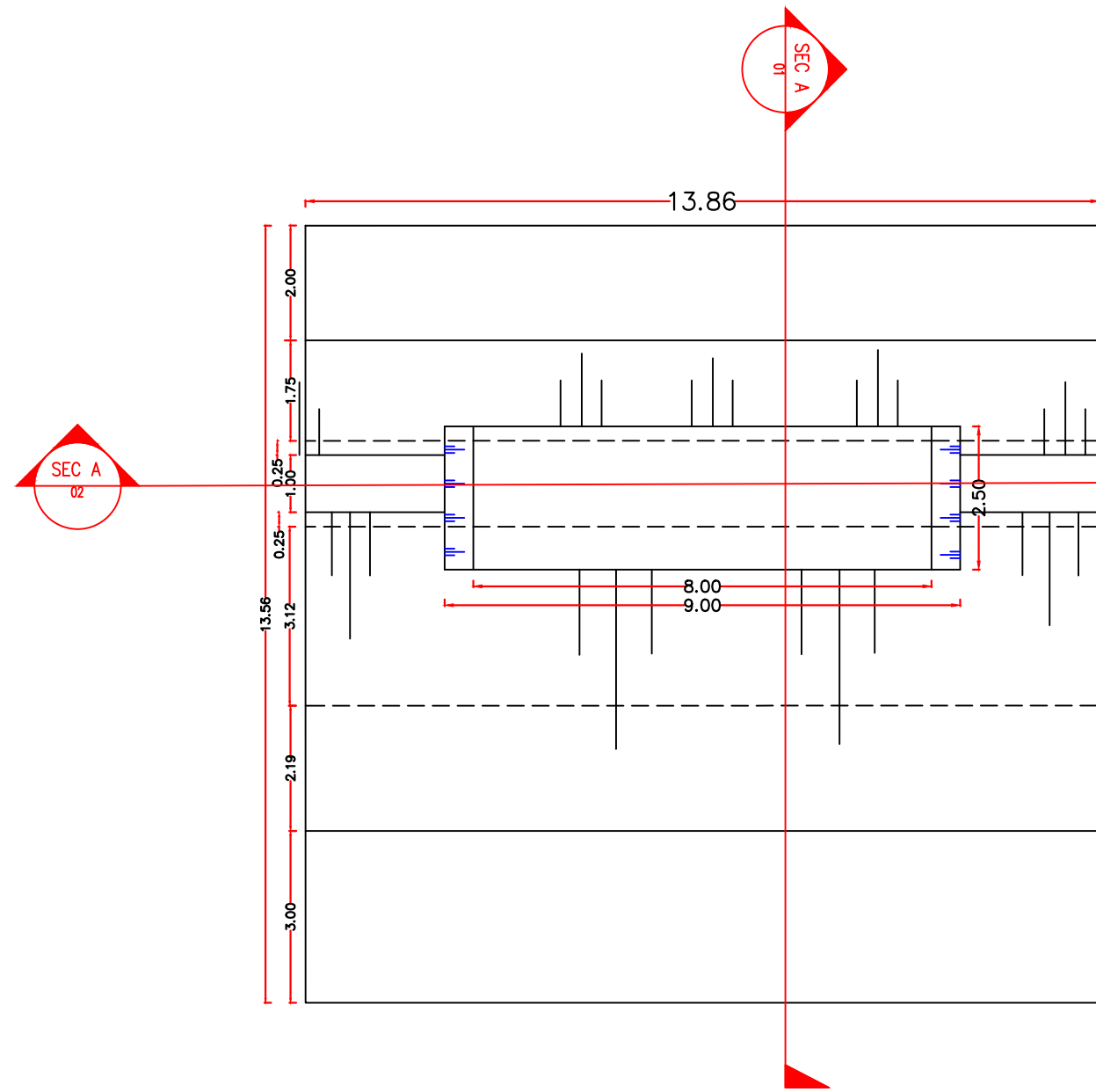






 Islamic Republic of Afghanistan	 National Water Affair Regulation Authority	 Asian Development Bank (ADB)	 Central Project Management Office	Project	Drawing Content	Employer					DWG NO
				PWN-CRK-001	Cross Section of Check Dam # 5	Surveyed by : Abdul Waheed and Eishan	Designed by: Faridoon Danesh	Drawn by: Faridoon Danesh	Checked by: Eng. Muhammad Akram Paktinyar	Croos Checked by: Eng. Fardeen Azimi	Approved by: Eng. Said Moqem Sadat
											Date: Sep-2020

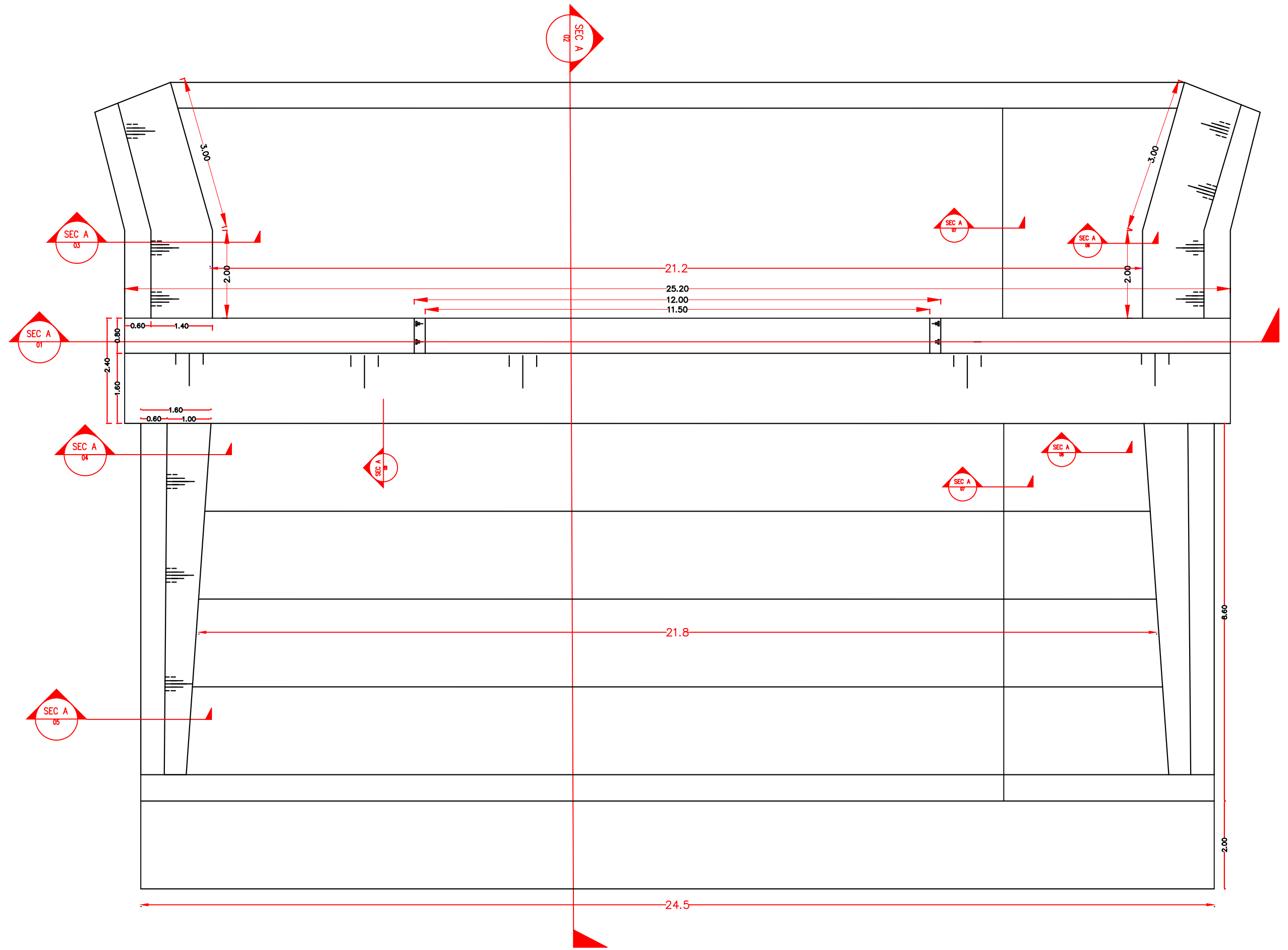
Cross Section Back of Police H.Q 2nd Valley 3rd Check Dam (0+392)







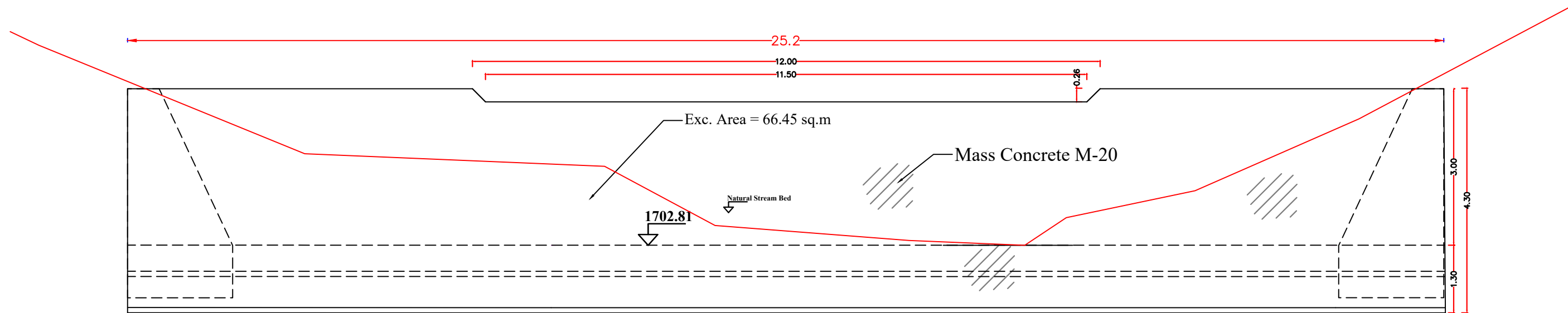
 Islamic Republic of Afghanistan	 National Water Affairs Regulation Authority	 Asian Development Bank (ADB)	 Central Project Management Office	Project	Drawing Content	Employer					DWG NO
				PWN-CRK-001	Cross Section of Check Dam # 6	Surveyed by : Abdul Waheed and Eishan	Designed by: Faridoon Danesh	Drawn by: Faridoon Danesh	Checked by: Eng. Muhammad Akram Paktinyar	Croos Checked by: Eng. Fardeen Azimi	Approved by: Eng. Said Moqeeem Sadat



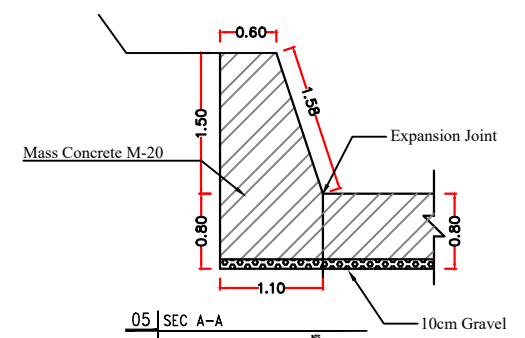
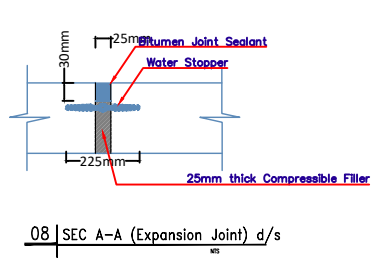
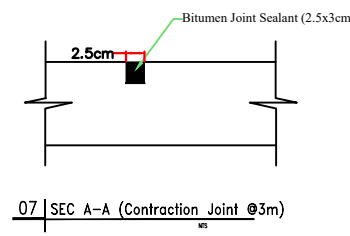
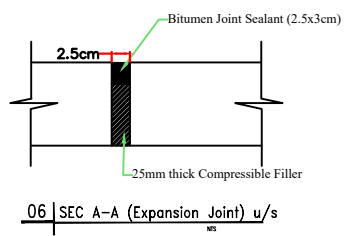
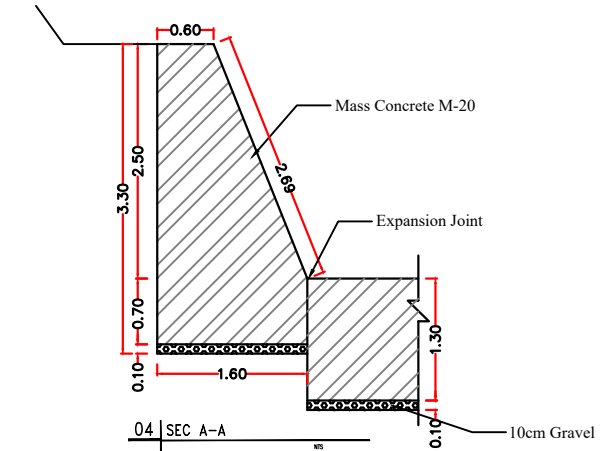
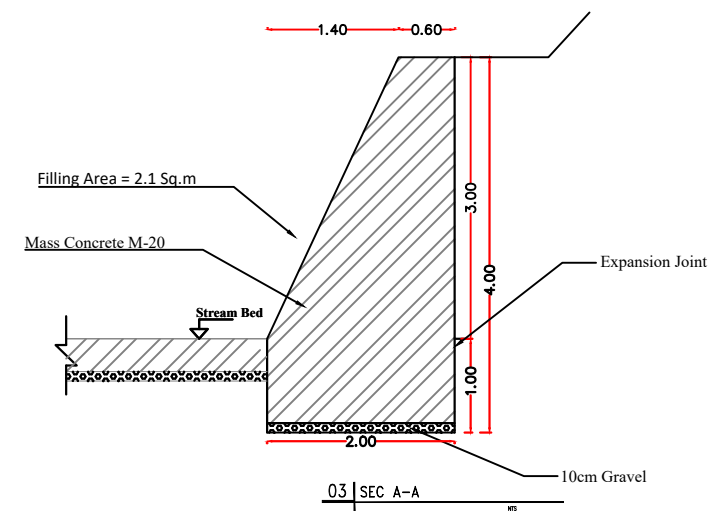
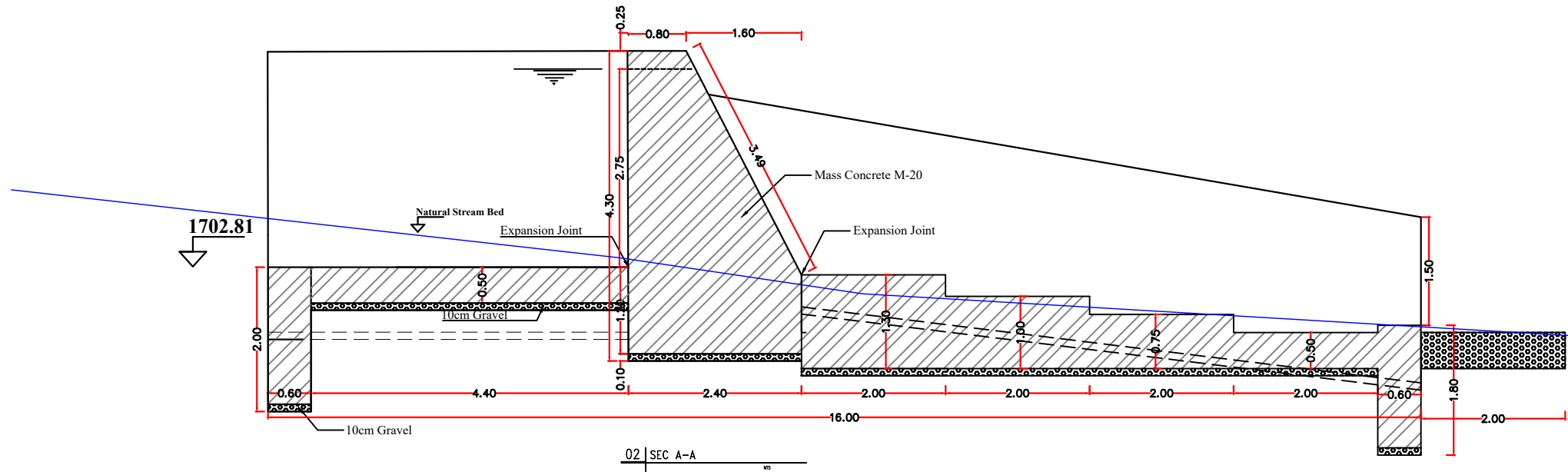
 Islamic Republic of Afghanistan	 National Water Affair Regulation Authority	 Asian Development Bank (ADB)	 Central Project Management Office	Project	Drawing Content	Employer					DWG NO
				PWN-CRK-001	Plan of Check Dam # 4	Surveyed by : Abdul Waheed and Eishan	Designed by: Faridoon Danesh	Drawn by: Faridoon 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-CRK-001	Plan of Check Dam # 5	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



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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-CRK-001	Sections of Check Dam # 5	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	24/24 Date: Sep-2020