WATER PROJECTS

AID-294-TO-13-00015

NAHALEEN MAIN PIPELINE PROJECT

Original CPM Construction Schedule (Part One)

INFRASTRUCTURE NEEDS PROGRAM
(INP-II) IQC WEST BANK / GAZA

March 5, 2014

APCO/ArCon
CONSTRUCTION AND SERVICES

1 Purpose

The purpose of this construction schedule is to describe the activities and Sub- activates which will be utilized to successfully implement the construction phase of the project.

2 Project Description

Nahaleen Pipeline Works

The scope of the water works of this project require the installation of new 300mm, 250mm, 200mm, and 100mm diameter main transmission pipeline including associated accessories for approximately 9 kilometers long to supply potable water to the towns of Nahaleen, Wadi Fukin, Husan, and Battir. The pipeline originates at a new connection to an existing Mekorot pipeline near Al Jaba' junction and terminates at new connection chambers for Nahaleen, Husan, and Battir, as well as at a connection to an existing pipeline to Wadi Fukin. A metered (connection chamber) is provided for each town. In addition, the scope requires installation of local network connections for Nahaleen, Husan, and Battir.

Nahaleen Roadway Works

In conjunction with water works, the rehabilitation/upgrading of approximately 9.5 kilometers of existing roads within Nahaleen, Husan, and Battir comprise the scope of project 2. The existing road is a two-lane regional road connecting the communities of Nahaleen, Hussan, Battir and Wadi Fukin to Road 60 and Road 367 in the Bethlehem Governorate. The SOW details excavation works, embankment backfilling, pavement layer construction, construction of retaining structures, installation of safety features (signage, road marking, cat eyes, and guardrails)

3 Scope of Work

The scope entails water scope to include excavation works, supply and installation of piping and associated fittings for the transmission main, related civil and mechanical works, backfilling excavated areas, pipe pressure testing, pipe disinfection and cleaning for complete operation of the water system. Road scope details excavation works, embankment backfilling, pavement layer

construction, construction of retaining structures, installation of safety features (signage, road marking, cat eyes, and guardrails).

4 Restrains

Parts of the task order are located in area C where the authorities approval for road segments in area C. Therefore, the works will commence in area B and Area C Coordination with DCL, Ma'atz, Israeli police and other jurisdictional authorities will be required. As shown in attached construction time schedule to allow time for authority approval.

Time Schedule was constructed and coordinated with the traffic control plan, method statement and site restrains. For further details, refer to the relevant submittals.

5 Assumptions:

- **Projects Duration:**

Project Name	NTP	Duration	Completion Date
Nahaleen Main Pipeline Project	6-Nov-13	540	29-Apr-15

- **Productivity rate:**

1. Excavation crew: 150-300 cubic meters per day.
2. Base course crew: 400-800 square meters per day.
3. Concrete Walls crew: 4-10 linear meters per day.
4. Pipeline Crew (300 mm): 50-80 linear meters per day.
5. Pipeline Crew (300 mm and 75 mm): 40--75 linear meters per day.

6. Pipeline Crew (250 mm): 50-80 linear meters per day
7. Pipeline Crew (250 mm and 50 mm): 50-75 linear meters per day.
8. Pipeline Crew (200 mm): 50-80 linear meters per day.
9. Pipeline Crew (150 mm): 60-85 linear meters per day.
10. Pipeline Crew (100 mm): 60-90 linear meters per day.
11. Pipeline Crew (50 mm): 60-95 linear meters per day.
12. House connections and water meters crew: 3-6 each per day.
13. Drainage system crew: 15- 30 linear meters per day.
14. Stone walls crew-: 10- 20 linear meters per day.
15. Curbstone crew -: 70- 140 linear meters per day.
16. Side walk crew: 70 – 140 square meters per day.
17. Asphalts crew: 500-700 ton per day.

- **Working Hours (Normal):** Saturday – Thursday, 8 hours / day.
- **Working Hours during month of Ramadan:** Saturday – Thursday, 5 hours / day.

- **Holidays (Palestine):**
  - December 25, 2013: Christmas (Western calendar).
  - Jan. 01, 2014: New Year.
  - Jan. 07, 2014: Christmas (Eastern calendar).
  - April 20, 2014: Easter.
  - May 01, 2014: Labor Day.
  - July 28 to July 31, 2014: Eid Al-Fitr

- Oct. 03 to Oct. 07, 2014: Eid Al Adha.
- Nov 15, 2014: Independence Day.
- December 25, 2014: Christmas (Western calendar).
- Jan. 01, 2015: New Year.
- April 12, 2015: Easter.
- May 01, 2015: Labor Day.

2. Holidays (Israel):

- March 16, 2014: Purim.
- April 15-to 21 April, 2014: Pesach.
- April 15-to 21 April, 2014: Holocaust Memorial Day.
- May 5, 2014 :Memorial Day
- May 6, 2014 : Independence Day
- June 4, 2014: Shavuot..
- Aug. 5, 2014:Tish'a B'Av.
- September 25, 2014: Rosh Hashana.
- Oct. 4,2014: Yom Kippur:
- Oct. 9 to 15, 2014: Sukkot :
- December 18 to 24, 2014 : Hanukkah

- **Rain Delays / Weather:**

Work program and activities duration were established to accommodate the winter, spring and summer weather where applicable.

Overall twelve days for each year allowance was considered in the construction of the proposed time schedule for the rainy days and the impact of rainy days. Actual rain delays will be documented, reported, and reflected in the updated time schedule in due course.
Twenty four days distributed as follows:

- One day days during November 2013: Nov. 21, 2013.
- Four days during December 2013: Dec. 5, 2013, Dec. 12, 2013, Dec. 19, 2013 and Dec. 26, 2013.
- Four days during January 2014: Jan. 2, 2014, Jan. 9, 2014, Jan. 16, 2014 and Jan. 23, 2014.
- One day during February 2014: Feb. 6, 2014.
- One day during March 2014: Mar. 6, 2014.
- One day days during November 2014: Nov. 20, 2014.
- Four days during December 2014: Dec. 4, 2014, Dec. 11, 2014, Dec. 18, 2014 and Dec. 24, 2014.
- Four days during January 2015: Jan. 7, 2015, Jan. 9, 2015, Jan. 15, 2015, Jan. 22, 2015 and Jan. 29, 2015.
- One day during February 2015: Feb. 5, 2015.
- One day during March 2015: Mar. 5, 2015.

- **Activity Calendars:**

  The following assumptions have used during the preparation of the construction time schedule for this task order:

  1. Calendar: 5-Day workweek for preconstruction phase.
     - Working Days: 5 days / week
     - Working Hours: 8 hours / day
     - Weekly Holiday: Friday and Saturday.

  2. Calendar: 6-Day workweek for construction phase.
     - Working Days: 6 days / week
     - Working Hours: 8 hours / day
     - Weekly Holiday: Friday.

3. Calendar: 6-Day workweek for order, manufacturing and delivery:
   - Working Days: 6 days / week
   - Working Hours: 8 hours / day
   - Weekly Holiday: Saturday.
4. Calendar: 1-Day workweek for Radiographic Testing (RT).
   - Working Days: 1 days / week only Saturday
   - Working Hours: 8 hours / day.

5. Calendar: 7-Day workweek to calculated calendar duration for projects.
   - Working Days: 7 days / week.
   - Working Hours: 8 hours / day.

- **Primavera Setting**

1. Progress override.
2. Activity type: task dependent
3. Duration type: fixed duration and unties
4. Unit of time: hour
5. Duration format: day
6. Hours per time period: 8h/day
7. Show unit label
8. Show duration label
9. Define Critical activities-total float less than or equal to zero .
10. Calendar 30 Days Schedule: 5-Day workweek for preconstruction phase.
11. Calendar: TO15- 6-Day workweek for construction phase.
12. Calendar: Israel Calendar for order, manufacturing and delivery.
13. Calendar: 7-Day workweek to calculated calendar duration for projects.
14. Calendar: RT Calendar for Radiographic Testing (RT).

- **Note:**

Activity duration of base course including base course layer work and testing base course.

6 APCO/ArCon on Site Staff

The following table list for APCO/ArCon on Site Staff to be used for the execution of the task order activities.

Resource ID	Name	Unit	Max Man power/Time
NHT-MP01	Task Order Manager	8hours / day	1
NHT-MP02	Project Quality Control Manager	8hours / day	1
NHT-MP03	Safety and Environmental Compliance Officer	8hours / day	1
NHT-MP04	Certified Welding Inspector	8hours / day	1
NHT-MP05	Project Engineer	8hours / day	1
NHT-MP06	Office Engineer	8hours / day	1

7 Assumption

- ## Detour and Traffic Management

Segment D, there is no traffic as the area is classified as a natural preserve, safety measures will be implemented to protect the hikers and the utility corridor.

Segments B, C and E will be divided using safety barriers into RHS and LHS, traffic will be maintained during the construction period.

Segment A will be totally closed while maintaining access for emergencies between the followings: From Sta.A0+000 to Sta.A1+440, From Sta. 7+460 to Sta. A8+203, and From Sta.A3+320 to Sta.A2+190. Remaining portions of Segment A will be divided using safety barriers into RHS and LHS, and traffic will be maintained during the construction period.

- ## Work Plan

Works will be divided into 2 groups (multiple crews):

Group 01 – works as follow:

2.1 SEG.A From Sta.A0+000 to Sta.A1+440 (Non-Residential area)

2.2 SEG.A From Sta.A1+440- A2+190 (Non-Residential area)

2.3 SEG.A From Sta.A3+320 to Sta.A2+190 (Non-Residential area)

2.4 SEG.C From St.C0+000 -St.C0+330 (Residential area)

2.5 SEG.E From Sta. E0+000 to Sta.E1+276 (Residential area)

2.6 Husan Distribution pipes.

2.7 Battir Distribution pipes.

Group 02 –works as follow:

1.1 SEG.D From Sta.D0+518 to Sta.D0+000 (Main Pipeline at Natural Preserve Area)

1.2 SEG.A From Sta.A3+320 to Sta.A4+560 RHS (Non-Residential area)

1.3 SEG.A From Sta.A4+560 to Sta.A5+800 RHS.

1.4 SEG.A From Sta.A3+320 to Sta.A5+800 LHS.

1.5 SEG.A From Sta.A3+320 to Sta.A5+800 RHS and LHS (Asphalt -work)

1.6 SEG.A From Sta.A5+800 to Sta. 6+630 RHS (at Residential area)

1.7 SEG.A From Sta.A6+630 to Sta. 7+460 RHS (Residential area)

1.8 SEG.A From Sta.A5+800 to Sta. 6+630 LHS (Residential area)

1.9 SEG.A From Sta.A6+630 to Sta. 7+460 LHS (Residential area)

1.10 SEG.A From Sta. 7+460 to Sta. A8+203.

1.11 SEG.B From Sta. B0+000 to Sta. B0+985 RHS (Residential area)

1.12 SEG.B From Sta. B0+000 to Sta. B0+985 LHS (Residential area)

Final Mechanical connection for main pipeline, distribution net work and Road Furnishing work.

- ## Major Activities & Crews:

1) Safety and traffic control: Two Crews.

2) Excavation: Two Crews will perform Road Excavation including (Cut/Fill) up to finish sub grade level for road.

3) Base course: Two crews.

4) Steel Pipe Line: Two crews.

5) Concrete Storm Drainage system: Two crews.

6) Curbstone and Side Walks: Two crews.

7) Stone Wall: One Crew.

8) Gravity & Reinf. Concrete Walls: Two crews.

9) Street Lighting: One crew

10) Asphalt Works: One Crew.

11) Road Furniture's: One crew.

Number of crews per each construction activity are detailed in attached resources tables 01 (Section 13)

- **Manpower:**

The following table list for maximum labors per time to be used for the execution of the project activities.

Resource ID	Name	Unit	Max Man power/Time
NHT-MP1	Land Surveyor	8hours / day	2
NHT-MP2	Project Manager Sub Contractor	8hours / day	1
NHT-MP3	Foreman	8hours / day	4
NHT-MP4	Driver/Operator	8hours / day	32
NHT-MP5	Carpenter	8hours / day	12
NHT-MP6	Steel Fixer	8hours / day	12
NHT-MP7	Steel Welder/pipe Fitter	8hours / day	8
NHT-MP8	Technician or Skilled Labor	8hours / day	20
NHT-MP9	Unskilled Labor / Flag Man	8hours / day	19

- **Equipment List:**

The following table lists for maximum equipments per time to be used for the execution of the project activities and the average production rates for each piece of equipment. The listed equipment and respective production rates have been incorporated into the project construction schedule.

Resource ID	Name	Unit	Productivity Rate	Max Equipments/Time
NHT-Eq01	Safety Patrol	8hours / day	----	1
NHT -Eq02	Survey Station	8hours / day	----	2
NHT -Eq03	Saw Cut Machine	8hours / day	50-150 LM/ Day	1
NHT -Eq04	Excavator C-330 / C-350	8hours / day	150-300 m3/ Day	2
NHT -Eq05	Backhoe-JCB	8hours / day	100-150 m3/ Day	3
NHT -Eq06	Crane	8hours / day	20-30 piece/ Day	1
NHT -Eq07	Bobcat	8hours / day	30-50 m3/ Day	2
NHT -Eq08	Wheel Loader	8hours / day	300-500 m3/ Day	1
NHT -Eq09	Dump Truck	8hours / day	12 trips /Day	14
NHT -Eq10	Grader	8hours / day	400-1000 m2/ Day	2
NHT -Eq11	120/ Or St. Small Compactor	8hours / day	100-200 m2/ Day	2
NHT -Eq12	St. Large Roller/ asphalt St. Roller	8hours / day	800-1400 m2/ Day	2
NHT -Eq13	Jack Hummer/ Air Compressor	8hours / day	------	1
NHT -Eq14	Water Tank W. Pump	8hours / day	6 trips /Day	2
NHT -Eq15	Asphalt Milling Mach.	8hours / day	4000-6000 m2/ Day	1
NHT -Eq16	Sprayer Tank	8hours / day	10-20 ton/ hour	1
NHT -Eq17	Finisher	8hours / day	500-700 ton/ Day	1
NHT -Eq18	Pneumatic Roller	8hours / day	500-700 ton/ Day	2
NHT -Eq19	Welding Machine	8hours / day	40-150 LM/ Day	4
NHT -Eq20	Digging/ Guard Rail Jack Hammer	8hours / day	200-300 m/ Day	1
NHT -Eq21	Painting Machine	8hours / day	200-400 m2/ Day	1
NHT -Eq22	Asphalt St. Roller	8hours / day	500-700 ton/ Day	1

8 Schedule Cost Loading:

Resource Control Report

Resource ID Name						
Activi ID	Resource ID	Activity Name	Budgeted Units	Budgeted Cost	Start	Finish
Resources						
Nahaleen						
Item 01 Nahaleen Pipeline						
Trench Excavation and Backfill. Trench dimensions and backfill zones are shown on details C-601, C-901 and C-902						
Trench excavation for pipelines:						
Trench Excavation for 300 mm pipes (main pipes)						
NHT2690	NHT-1.1.1	Trench excavation for 300mm main pipeline from Sta. A0+100 to sta. A1+310 length approx. (1210 LM)	250LM	$6,000	20-Mar-14	14-Apr-14
	Subtotal		**250**	**$6,000**	**20-Mar-14**	**14-Apr-14**
Trench Excavation for 300 and 75 mm pipes (main and distribution pipes on Segment A, from station 1+310 to 2+430)						
NHT2680	NHT-1.1.2	Trench excavation for 300mm main pipeline with 75 mm dist. Pipe from sta. A1+310 TO A1+440 length approx. (130 LM)	130LM	$3,250	14-Apr-14	19-Apr-14
NHT2830	NHT-1.1.2	Trench excavation for 300mm main pipeline with 75 mm dist. Pipe from A1+440 to sta. A2+190 length approx. (750 LM)	750LM	$18,750	14-Jun-14	25-Jun-14
NHT2965	NHT-1.1.2	Trench excavation for 300mm main pipeline with 75 mm dist. Pipe from A2+190 to sta.A2+430 length approx. (240 LM)	240LM	$6,000	05-Jul-14	14-Jul-14
	Subtotal		**1120**	**$28,000**	**14-Apr-14**	**14-Jul-14**
Trench Excavation for 300 and 50 mm pipes (main and distribution pipes on Segment A, from STA 2+430 to 3+310)						
NHT2985	NHT-1.1.3	Trench excavation for 300mm main pipeline with 50 mm dist. Pipe from A2+430 to sta. A3+310 length approx. (880 LM)	880LM	$21,120	14-Jul-14	06-Aug-14
	Subtotal		**880**	**$21,120**	**14-Jul-14**	**06-Aug-14**
Trench Excavation for 250 mm pipes (main pipes on Segment A, from STA 3+310 to STA 3+360)						
NHT3620	NHT-1.1.4	Trench excavation for 250 mm main pipeline from A3+350 to sta.A4+560 with length approx. (1210LM)	1208LM	$24,160	15-Apr-14	05-May-14
NHT3730	NHT-1.1.4	Trench excavation for 250 mm main pipeline from A4+560 to sta.A5+434 with length approx. (874 LM)	872LM	$17,440	11-May-14	24-May-14
	Subtotal		**2080**	**$41,600**	**15-Apr-14**	**24-May-14**
Trench Excavation for 250 and 50mm pipes (main and distribution pipes on Segment A, from STA 5+440 to 5+810)						
NHT3760	NHT-1.1.5	Trench excavation for 250mm main pipeline with 50 mm dist. Pipe from sta.A5+434 to A5+800 length approx. (366 LM)	370LM	$8,510	24-May-14	01-Jun-14
	Subtotal		**370**	**$8,510**	**24-May-14**	**01-Jun-14**
Trench Excavation for 200,100 and 50 mm pipes (main and distribution pipes on Segment A, from STA 5+810 to 5+90 and on Segment B from STA 0+000 to 0+325)						
NHT3080	NHT-1.1.6	Trench excavation for 200mm main pipeline with 100 mm dist. Pipe from C0+000 to sta. C0+330 (330 LM)	370LM	$9,250	30-Sep-14	11-Oct-14
NHT3900	NHT-1.1.6	Trench excavation for 200mm main pipeline with 100 mm dist. Pipe from A5+800 to sta.A5+840 length approx. (40 LM)	45LM	$1,125	01-Jun-14	04-Jun-14
	Subtotal		**415**	**$10,375**	**01-Jun-14**	**11-Oct-14**
Trench Excavation for 200,150 and 50 mm pipes (main and distribution pipes on Segment A, from STA 5+900 to 7+410))						
NHT3910	NHT-1.1.7	Trench excavation for 200mm main pipeline with 150 mm dist. Pipe from A5+840 to sta.A6+630 length (790 LM)	761LM	$20,547	04-Jun-14	19-Jun-14
NHT4040	NHT-1.1.7	Trench excavation for 200mm main pipeline with 150 mm dist. Pipe from A6+630 to sta.A7+406.6 length (777 LM)	749LM	$20,223	21-Jun-14	23-Jul-14
	Subtotal		**1510**	**$40,770**	**04-Jun-14**	**23-Jul-14**

Resource Control Report

Resource ID Name

Activi ID	Resource ID	Activity Name	Budgeted Units	Budgeted Cost	Start	Finish
		Trench Excavation for 100,100 and 50 mm pipes(main and distribution pipes on Segment B, from STA 0+100 to 0+985))				
NHT4520	NHT-1.1.8	Trench excavation for 100mm main pipeline with 100 mm dist. Pipe from B0+100 to sta. B0+985 with length. (885 LM)	885LM	$21,240	28-Oct-14	12-Nov-14
	Subtotal		**885**	**$21,240**	**28-Oct-14**	**12-Nov-14**
		Trench Excavation for 150,150 pipes (main pipes on Segment C)				
NHT3080	NHT-1.1.9	Trench excavation for 200mm main pipeline with 100 mm dist. Pipe from C0+000 to sta. C0+330 (330 LM)	60LM	$1,560	30-Sep-14	11-Oct-14
	Subtotal		**60**	**$1,560**	**30-Sep-14**	**11-Oct-14**
		Bedding Materials For 50 mm pipes (distribution pipes on Segment A, from STA (7+400 to 8+100)				
NHT4410	NHT-1.1.10	Trench Excavation, bedding, install & backfill for 50mm pipes (7+400 to 8+100) (700 LM)	700LM	$7,700	13-Oct-14	05-Nov-14
	Subtotal		**700**	**$7,700**	**13-Oct-14**	**05-Nov-14**
		Trench Excavation for 200 mm pipes (distribution pipes on Segment A, for Nahaleen Tank future connection)				
NHT4815	NHT-1.1.11	Nahaleen Tank future connection (200 LM)	200LM	$3,800	05-Jan-15	11-Jan-15
	Subtotal		**200**	**$3,800**	**05-Jan-15**	**11-Jan-15**
	Subtotal		**8470**	**$190,675**	**20-Mar-14**	**11-Jan-15**
	Subtotal		**8470**	**$190,675**	**20-Mar-14**	**11-Jan-15**
		Pipe zone backfill (Bedding Materials)				
		Bedding Materials For 300 mm pipes (main pipes)				
NHT2700	NHT-1.2.1	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (1210 LM)	1260LM	$17,640	20-Mar-14	14-Apr-14
	Subtotal		**1260**	**$17,640**	**20-Mar-14**	**14-Apr-14**
		Bedding Materials For 300 and 75 mm pipes (main and distribution pipes on Segment A, from station 1+310 to 2+430)				
NHT2682	NHT-1.2.2	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (130 LM)	130LM	$2,275	14-Apr-14	19-Apr-14
NHT2840	NHT-1.2.2	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection(750 LM)	750LM	$13,125	14-Jun-14	25-Jun-14
NHT2980	NHT-1.2.2	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (240 LM)	240LM	$4,200	05-Jul-14	14-Jul-14
	Subtotal		**1120**	**$19,600**	**14-Apr-14**	**14-Jul-14**
		Bedding Materials For 300 and 50 mm pipes (main and distribution pipes on Segment A, from STA 2+430 to 3+310)				
NHT2987	NHT-1.2.3	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (880 LM)	880LM	$16,280	14-Jul-14	06-Aug-14
	Subtotal		**880**	**$16,280**	**14-Jul-14**	**06-Aug-14**
		Bedding Materials For 250 mm pipes (main pipes on Segment A, from STA 3+310 to STA 3+360)				
NHT3630	NHT-1.2.4	Bedding (crushed stone) and install the above main and distribution Steel pipe with welding inspection (1210LM)	1208LM	$15,704	15-Apr-14	05-May-14
NHT3740	NHT-1.2.4	Bedding (crushed stone) and install the above main and distribution Steel pipe with welding inspection (874 LM)	872LM	$11,336	11-May-14	24-May-14

Resource Control Report

Resource ID Name

Activi ID	Resource ID	Activity Name	Budgeted Units	Budgeted Cost	Start	Finish
	Subtotal		**2080**	**$27,040**	**15-Apr-14**	**24-May-14**
		Bedding Materials For 250 and 50mm pipes (main and distribution pipes on Segment A, from STA 5+440 to 5+810)				
NHT3763	NHT-1.2.5	Bedding (crushed stone) and install the above main and distribution Steel pipe with welding inspection (366 LM)	370LM	$6,475	24-May-14	01-Jun-14
	Subtotal		**370**	**$6,475**	**24-May-14**	**01-Jun-14**
		Bedding Materials For 200,100 and 50 mm pipes (main and distribution pipes on Segment A, from STA 5+810 to 5+90 and on Segment B from STA 0+000 to 0+325)				
NHT3090	NHT-1.2.6	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (330 LM)	370LM	$6,290	30-Sep-14	11-Oct-14
NHT3905	NHT-1.2.6	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (40 LM)	45LM	$765	01-Jun-14	04-Jun-14
	Subtotal		**415**	**$7,055**	**01-Jun-14**	**11-Oct-14**
		Bedding Materials For 200,150 and 50 mm pipes (main and distribution pipes on Segment A, from STA 5+900 to 7+410))				
NHT3920	NHT-1.2.7	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (790 LM)	761LM	$14,079	04-Jun-14	19-Jun-14
NHT4050	NHT-1.2.7	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (777 LM)	749LM	$13,857	21-Jun-14	23-Jul-14
	Subtotal		**1510**	**$27,935**	**04-Jun-14**	**23-Jul-14**
		Bedding Materials For 100,100 and 50 mm pipes(main and distribution pipes on Segment B, from STA 0+100 to 0+985))				
NHT4530	NHT-1.2.8	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (885 LM)	885LM	$13,275	28-Oct-14	12-Nov-14
	Subtotal		**885**	**$13,275**	**28-Oct-14**	**12-Nov-14**
		Bedding Materials For 150,150 pipes (main pipes on Segment C)				
NHT3090	NHT-1.2.9	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (330 LM)	60LM	$1,050	30-Sep-14	11-Oct-14
	Subtotal		**60**	**$1,050**	**30-Sep-14**	**11-Oct-14**
		Bedding Materials For 50 mm pipes (distribution pipes on Segment A, from STA (7+400 to 8+100)				
NHT4410	NHT-1.2.10	Trench Excavation, bedding, install & backfill for 50mm pipes (7+400 to 8+100) (700 LM)	700LM	$5,600	13-Oct-14	05-Nov-14
	Subtotal		**700**	**$5,600**	**13-Oct-14**	**05-Nov-14**
		Bedding Materials For 200 mm pipes (distribution pipes on Segment A, for Nahaleen Tank future connection)				
NHT4815	NHT-1.2.11	Nahaleen Tank future connection (200 LM)	200LM	$2,400	05-Jan-15	11-Jan-15
	Subtotal		**200**	**$2,400**	**05-Jan-15**	**11-Jan-15**
	Subtotal		**9480**	**$144,350**	**20-Mar-14**	**11-Jan-15**
	Trench zone and final backfill excluding Asphalt reinstatement.					
		backfill For 300 mm pipes (main pipes)				
NHT2710	NHT-1.3.1	Backfill the pipe trench with (single size aggregate) to the required level (1210 LM)	1260LM	$18,270	20-Mar-14	14-Apr-14
	Subtotal		**1260**	**$18,270**	**20-Mar-14**	**14-Apr-14**

Resource Control Report

Resource ID Name

Activi ID	Resource ID	Activity Name	Budgeted Units	Budgeted Cost	Start	Finish
		backfill For 300 and 75 mm pipes (main and distribution pipes on Segment A, from station 1+310 to 2+430)				
NHT2685	NHT-1.3.2	Backfill the pipe trench with (single size aggregate) to the required level 130 LM)	130LM	$2,600	14-Apr-14	19-Apr-14
NHT2850	NHT-1.3.2	Backfill the pipe trench with (single size aggregate) to the required level (750 LM)	750LM	$15,000	14-Jun-14	25-Jun-14
NHT2990	NHT-1.3.2	Backfill the pipe trench with (single size aggregate) to the required level (240 LM)	240LM	$4,800	05-Jul-14	14-Jul-14
	Subtotal		**1120**	**$22,400**	**14-Apr-14**	**14-Jul-14**
		backfill For 300 and 50 mm pipes (main and distribution pipes on Segment A, from STA 2+430 to 3+310)				
NHT2999	NHT-1.3.3	Backfill the pipe trench with (single size aggregate) to the required level (880 LM)	880LM	$18,040	14-Jul-14	06-Aug-14
	Subtotal		**880**	**$18,040**	**14-Jul-14**	**06-Aug-14**
		backfill For 250 mm pipes (main pipes on Segment A, from STA 3+310 to STA 3+360)				
NHT3640	NHT-1.3.4	Backfill the pipe trench with (single size aggregate) to the required level (1210LM)	1208LM	$16,308	15-Apr-14	05-May-14
NHT3750	NHT-1.3.4	Backfill the pipe trench with (single size aggregate) to the required level (874 LM)	872LM	$11,772	11-May-14	24-May-14
	Subtotal		**2080**	**$28,080**	**15-Apr-14**	**24-May-14**
		backfill For 250 and 50mm pipes (main and distribution pipes on Segment A, from STA 5+440 to 5+810)				
NHT3766	NHT-1.3.5	Backfill the pipe trench with (single size aggregate) to the required level (366 LM)	370LM	$7,400	24-May-14	01-Jun-14
	Subtotal		**370**	**$7,400**	**24-May-14**	**01-Jun-14**
		backfill For 200,100 and 50 mm pipes (main and distribution pipes on Segment A, from STA 5+810 to 5+90 and on Segment B from STA 0+000 to 0+325)				
NHT3100	NHT-1.3.6	Backfill the pipe trench with (single size aggregate) to the required level (330 LM)	370LM	$6,845	30-Sep-14	11-Oct-14
NHT3908	NHT-1.3.6	Backfill the pipe trench with (single size aggregate) to the required level (40 LM)	45LM	$833	01-Jun-14	04-Jun-14
	Subtotal		**415**	**$7,678**	**01-Jun-14**	**11-Oct-14**
		backfill For 200,150 and 50 mm pipes (main and distribution pipes on Segment A, from STA 5+900 to 7+410))				
NHT3930	NHT-1.3.7	Backfill the pipe trench with (single size aggregate) to the required level (790 LM)	761LM	$15,220	04-Jun-14	19-Jun-14
NHT4060	NHT-1.3.7	Backfill the pipe trench with (single size aggregate) to the required level	749LM	$14,980	21-Jun-14	23-Jul-14
	Subtotal		**1510**	**$30,200**	**04-Jun-14**	**23-Jul-14**
		backfill For 100,100 and 50 mm pipes(main and distribution pipes on Segment B, from STA 0+100 to 0+985))				
NHT4540	NHT-1.3.8	Backfill the pipe trench with (single size aggregate) to the required level	885LM	$15,488	28-Oct-14	12-Nov-14
	Subtotal		**885**	**$15,488**	**28-Oct-14**	**12-Nov-14**
		backfillFor 150,150 pipes (main pipes on Segment C)				
NHT3100	NHT-1.3.9	Backfill the pipe trench with (single size aggregate) to the required level (330 LM)	60LM	$780	30-Sep-14	11-Oct-14
	Subtotal		**60**	**$780**	**30-Sep-14**	**11-Oct-14**
		backfill For 50 mm pipes (distribution pipes on Segment A, from STA (7+400 to 8+100)				

Resource Control Report

Resource ID Name						
Activi ID	Resource ID	Activity Name	Budgeted Units	Budgeted Cost	Start	Finish
NHT4410	NHT-1.3.10	Trench Excavation, bedding, install & backfill for 50mm pipes (7+400 to 8+100) (700 LM)	700LM	$5,600	13-Oct-14	05-Nov-14
	Subtotal		**700**	**$5,600**	**13-Oct-14**	**05-Nov-14**
		backfill For 200 mm pipes (distribution pipes on Segment A, for Nahaleen Tank future connection)				
NHT4815	NHT-1.3.11	Nahaleen Tank future connection (200 LM)	200LM	$2,800	05-Jan-15	11-Jan-15
	Subtotal		**200**	**$2,800**	**05-Jan-15**	**11-Jan-15**
	Subtotal		**9480**	**$156,735**	**20-Mar-14**	**11-Jan-15**
		Supply,Installation of pipes and associated fittings.				
		Pipe and fittings, 300 mm (ASTM 53- Grade B schedule 20)				
NHT2682	NHT-2.1.1	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (130 LM)	130LM	$15,730	14-Apr-14	19-Apr-14
NHT2700	NHT-2.1.1	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (1210 LM)	1210LM	$146,410	20-Mar-14	14-Apr-14
NHT2840	NHT-2.1.1	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection(750 LM)	750LM	$90,750	14-Jun-14	25-Jun-14
NHT2980	NHT-2.1.1	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (240 LM)	240LM	$29,040	05-Jul-14	14-Jul-14
NHT2987	NHT-2.1.1	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (880 LM)	880LM	$106,480	14-Jul-14	06-Aug-14
NHT3470	NHT-2.1.1	Install 300 mm main steel pipe line and cast concrete above supports (518 Lm)	518LM	$62,678	11-Mar-14	27-Mar-14
NHT4820	NHT-2.1.1	Mech. Work including install valves fittings, and flushing pipes Group Two	32LM	$3,872	11-Jan-15	09-Feb-15
	Subtotal		**3760**	**$454,960**	**11-Mar-14**	**09-Feb-15**
		Pipe and fittings, 250 mm (ASTM53- Grade B schedule 20)				
NHT3630	NHT-2.1.2	Bedding (crushed stone) and install the above main and distribution Steel pipe with welding inspection (1210LM)	1028LM	$105,884	15-Apr-14	05-May-14
NHT3740	NHT-2.1.2	Bedding (crushed stone) and install the above main and distribution Steel pipe with welding inspection (874 LM)	682LM	$70,246	11-May-14	24-May-14
NHT3763	NHT-2.1.2	Bedding (crushed stone) and install the above main and distribution Steel pipe with welding inspection (366 LM)	370LM	$38,110	24-May-14	01-Jun-14
	Subtotal		**2080**	**$214,240**	**15-Apr-14**	**01-Jun-14**
		Pipe and fittings,200 mm (ASTM53- Grade B schedule 20)				
NHT3090	NHT-2.1.3	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (330 LM)	330LM	$28,050	30-Sep-14	11-Oct-14
NHT3905	NHT-2.1.3	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (40 LM)	40LM	$3,400	01-Jun-14	04-Jun-14
NHT3920	NHT-2.1.3	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (790 LM)	790LM	$67,150	04-Jun-14	19-Jun-14
NHT4050	NHT-2.1.3	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (777 LM)	770LM	$65,450	21-Jun-14	23-Jul-14
NHT4815	NHT-2.1.3	Nahaleen Tank future connection (200 LM)	200LM	$17,000	05-Jan-15	11-Jan-15
	Subtotal		**2130**	**$181,050**	**01-Jun-14**	**11-Jan-15**
		Pipe and fittings, 150 mm (ASTM 53- Grade B schedule 40)				
NHT3400	NHT-2.1.4	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection(950 LM)	1120LM	$80,640	13-Dec-14	30-Dec-14
	Subtotal		**1120**	**$80,640**	**13-Dec-14**	**30-Dec-14**

Resource Control Report

Resource ID Name

Activi ID	Resource ID	Activity Name	Budgeted Units	Budgeted Cost	Start	Finish
		Pipe and fittings, 100 mm (ASTM 53- Grade B schedule 40)				
NHT3090	NHT-2.1. 4	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (330 LM)	330LM	$14,850	30-Sep-14	11-Oct-14
NHT3330	NHT-2.1. 4	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (430 LM)	305LM	$13,725	03-Nov-14	11-Nov-14
NHT4513	NHT-2.1. 4	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (90 LM)	90LM	$4,050	25-Oct-14	28-Oct-14
NHT4530	NHT-2.1. 4	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (885 LM)	885LM	$39,825	28-Oct-14	12-Nov-14
	Subtotal		**1610**	**$72,450**	**30-Sep-14**	**12-Nov-14**
	Subtotal		**10700**	**$1,003,340**	**11-Mar-14**	**09-Feb-15**
	Isolation Flanged Buried Gate Valves Chambers on main pipeline					
		Supply and install complete PN16 bar, DN 200 mm flanged Gate Valve and its chamber as shown on detail No. C907 and according to the related clauses of the technical specifications				
NHT3110	NHT-5.1.1	Construct -Nahaleen Connection chamber @ Sta.C0+320	1Each	$9,050	11-Oct-14	25-Oct-14
NHT4080	NHT-5.1.1	Construct -200 Gate Valve chamber @ Sta.A7+085	1Each	$9,050	28-Jul-14	11-Aug-14
NHT4815	NHT-5.1.1	Nahaleen Tank future connection (200 LM)	1Each	$9,050	05-Jan-15	11-Jan-15
	Subtotal		**3**	**$27,150**	**28-Jul-14**	**11-Jan-15**
		Supply and install complete PN 16 bar, DN 150 mm flanged Gate Valve and its chamber for Husan Distribution pipe connection as shown in sheet DP-01 and as per detail No. C907 and according to the related clauses of the technical specifications.				
NHT3350	NHT-5.1.2	Construct AR/AV Valve chamber @ Hussan village	3Each	$24,660	11-Nov-14	25-Nov-14
	Subtotal		**3**	**$24,660**	**11-Nov-14**	**25-Nov-14**
	Subtotal		**6**	**$51,810**	**28-Jul-14**	**11-Jan-15**
	Butterfly Valve Chambers					
		Supply and install complete PN 40 bar, DN300mm BFV and its chamber as shown on detail no. C904 and according to the related clauses of the technical specifications.				
NHT2740	NHT-5.2.1	Construct - Butterfly Valve chamber @ Sta.A1+084	1Each	$32,820	03-May-14	12-May-14
NHT3030	NHT-5.2.1	Construct - Butterfly Valve chamber @ Sta.A2+590	1Each	$32,820	18-Aug-14	04-Sep-14
NHT3480	NHT-5.2.1	Construct - Butterfly Valve chamber @ Sta.D0+504	1Each	$32,820	27-Mar-14	06-Apr-14
	Subtotal		**3**	**$98,460**	**27-Mar-14**	**04-Sep-14**
		Supply and install complete PN 40 bar, DN250mm BFV and its chamber as shown on detail no. C904 and according to the related clauses of the technical specifications.				
NHT3670	NHT-5.2.2	Construct - Butterfly Valve chamber @ Sta.A4+088	1Each	$29,500	11-May-14	21-May-14
	Subtotal		**1**	**$29,500**	**11-May-14**	**21-May-14**
		Supply and install complete PN 25 bar, DN250mm BFV and its chamber as shown on detail no. C904 and according to the related clauses of the technical specifications.				
NHT3800	NHT-5.2.3	Construct - Butterfly Valve chamber @ A5+587	1Each	$27,900	28-May-14	09-Jun-14
	Subtotal		**1**	**$27,900**	**28-May-14**	**09-Jun-14**
	Subtotal		**5**	**$155,860**	**27-Mar-14**	**04-Sep-14**

Resource Control Report

Resource ID Name

Activi ID	Resource ID	Activity Name	Budgeted Units	Budgeted Cost	Start	Finish
	Combination Air Valve Chambers					
		Supply and install complete PN 40 bar, DN 100 mm Combination Air Valve (combination of air and vacuum valve and air release valve) and its chamber on 300mm pipeline				
NHT2730	NHT-5.3.1	Construct - AR/AV Valve chamber @ Sta. A0+719, A1+108 and A1+213	3Each	$41,400	24-Apr-14	15-May-14
NHT2860	NHT-5.3.1	Construct - AR/AV Valve chamber @ A1+457, Sta. A1+727 &,A1+820,.	3Each	$41,400	25-Jun-14	23-Jul-14
NHT3035	NHT-5.3.1	Construct - AR/AV Valve chamber @ Sta.A3+120, A3+249 & A3+320	3Each	$41,400	06-Aug-14	25-Aug-14
NHT3500	NHT-5.3.1	Construct - AR/AV Valve chamber @ Sta.D0+110 & D0+068	2Each	$27,600	03-Apr-14	16-Apr-14
	Subtotal		**11**	**$151,800**	**03-Apr-14**	**25-Aug-14**
		Supply and install complete PN 40 bar, DN 100 mm Combination Air Valve (combination of air and vacuum valve and air release valve) and its chamber on 250mm pipeline as per detail C905A,				
NHT3660	NHT-5.3.2	Construct - AR/AV Valve chamber @ Sta.A3+721	1Each	$13,500	08-May-14	19-May-14
	Subtotal		**1**	**$13,500**	**08-May-14**	**19-May-14**
		Supply and install complete PN 25 bar, DN 80 mm Combination Air Valve (combination of air and vacuum valve and air release valve) and its chamber on 200 mm pipeline as per detail C905A,				
NHT4070	NHT-5.3.3	Construct - AR/AV Valve chamber @ Sta.A7+046	1Each	$12,000	23-Jul-14	09-Aug-14
	Subtotal		**1**	**$12,000**	**23-Jul-14**	**09-Aug-14**
		Supply and install complete PN 25 bar, DN 50 mm Combination Air Valve (combination of air and vacuum valve and air release valve) and its chamber on 100 mm pipeline as per detail C905A,				
NHT4820	NHT-5.3.4	Mech. Work including install valves fittings, and flushing pipes Group Two	1Each	$9,300	11-Jan-15	09-Feb-15
	Subtotal		**1**	**$9,300**	**11-Jan-15**	**09-Feb-15**
	Subtotal		**14**	**$186,600**	**03-Apr-14**	**09-Feb-15**
	Flow Monitoring Chamber					
		Supply, install all valves, fittings …etc., PN 40, DN 300 mm and construct Main Monitoring water meter chamber complete as per detail PD-06, and according to the related clauses of the technical specifications. PN 40 for all internal fittings.				
NHT3810	NHT-5.4.1	Construct -250mm flow monitoring chamber @ Sta.A5+725	1Each	$170,000	29-May-14	14-Jun-14
	Subtotal		**1**	**$170,000**	**29-May-14**	**14-Jun-14**
		Supply, install all valves, fittings …etc., PN 40, DN 250 mm and construct Main Monitoring water meter chamber complete as per detail PD-05, and according to the related clauses of the technical specifications. PN 25 for all internal fittings.				
NHT2750	NHT-5.4.2	Construct -300 mm flow monitoring chamber @ Sta.A0+660	1Each	$150,000	05-May-14	19-May-14
	Subtotal		**1**	**$150,000**	**05-May-14**	**19-May-14**
	Subtotal		**2**	**$320,000**	**05-May-14**	**14-Jun-14**
	Washout Chamber					
		Supply and install complete PN 40 bar, DN 250 mm washout and its chamber on DN 300 mm pipelines as per detail C903 Type A "washout outfall in urban areas and as per detail C903 Type B "washout outfall in wadis and open areas"				
NHT2720	NHT-5.5.1	Construct - Wash out Valve chamber @ Sta. A0+624 .A0+911& &A1+340	3Each	$67,500	19-Apr-14	11-May-14
NHT2870	NHT-5.5.1	Construct - Wash out Valve chamber @ Sta.A1+503	1Each	$22,500	23-Jul-14	07-Aug-14

Resource Control Report

Activi ID	Resource ID	Activity Name	Budgeted Units	Budgeted Cost	Start	Finish
Resource ID Name						
NHT3490	NHT-5.5.1	Construct - Wash out Valve chamber @ Sta.D0+500 & D0+080	2Each	$45,000	01-Apr-14	14-Apr-14
NHT3650	NHT-5.5.1	Construct - Wash out Valve chamber @ Sta.3+612, 3+811 & 4+092	3Each	$67,500	05-May-14	22-May-14
NHT3790	NHT-5.5.1	Construct - Wash out Valve chamber @ 5+590	1Each	$22,500	24-May-14	04-Jun-14
	Subtotal		**10**	**$225,000**	**01-Apr-14**	**07-Aug-14**
		Supply and install complete PN 40 bar, DN 200 mm washout and its chamber on DN 250 mm pipelines as per detail C903 Type B "washout outfall in wadis and open areas"				
NHT3020	NHT-5.5.2	Construct - Wash out Valve chamber @ Sta.A2+222,A2+973,A3+187, & A3+281.	3Each	$51,000	12-Aug-14	02-Sep-14
NHT4090	NHT-5.5.2	Construct - Wash out Valve chamber @ Sta.A7+187	1Each	$17,000	02-Aug-14	12-Aug-14
	Subtotal		**4**	**$68,000**	**02-Aug-14**	**02-Sep-14**
		Supply and install complete PN 25 bar, DN 150 mm washout and its chamber on DN 200 mm pipeline as per detail C903 Type A "washout outfall in urban areas"				
NHT3020	NHT-5.5.3	Construct - Wash out Valve chamber @ Sta.A2+222,A2+973,A3+187, & A3+281.	1Each	$12,000	12-Aug-14	02-Sep-14
	Subtotal		**1**	**$12,000**	**12-Aug-14**	**02-Sep-14**
	Subtotal		**15**	**$305,000**	**01-Apr-14**	**02-Sep-14**
	Pressure Reducing Valve Chambers					
		Supply and install complete PN 25 bar, DN 150 mm Pressure Reducing Valve and its chamber on DN 150 mm distribution pipeline - Battir new pipeline - as shown in Sheet DP-02 , as per detail C-923				
NHT3420	NHT-5.6.2	Construct -Gate Valve chamber @ Battir village	1Each	$18,500	30-Dec-14	13-Jan-15
	Subtotal		**1**	**$18,500**	**30-Dec-14**	**13-Jan-15**
		Supply and install complete PN 25 bar, DN 150 mm Pressure Reducing Valve and its chamber on DN 150 mm distribution pipeline - Husan new pipeline - as per detail C-923				
NHT3350	NHT-5.6.3	Construct AR/AV Valve chamber @ Hussan village	1Each	$18,500	11-Nov-14	25-Nov-14
	Subtotal		**1**	**$18,500**	**11-Nov-14**	**25-Nov-14**
		Supply and install complete PN 40 bar, DN 150 mm Pressure Reducing Valve and its chamber on DN 150 mm distribution pipeline - Nahaleen new pipeline				
NHT3422	NHT-5.6.4	Construct - PRV chamber @ Battir village	1Each	$27,900	30-Dec-14	13-Jan-15
	Subtotal		**1**	**$27,900**	**30-Dec-14**	**13-Jan-15**
	Subtotal		**3**	**$64,900**	**11-Nov-14**	**13-Jan-15**
	Supply, install and construct complete Water Meter Connection Chambers					
		Supply and install all pipes,valves, fittings ...etc, PN 40 for all internal fittings.Construct complete water meter connection chambers at 200 mm pipeline and connect to the existing networks and				
NHT4370	NHT-5.7.1	Construct -Hussan Connection chamber @ Sta.A7+390	1Each	$70,000	23-Sep-14	12-Oct-14
	Subtotal		**1**	**$70,000**	**23-Sep-14**	**12-Oct-14**
		Supply and install all pipes,valves, fittings ...etc, PN 16 for all internal fittings.Construct complete water meter connection chambers at 150 mm pipeline and connect to the existing networks and mains. Works will include excavation,				
NHT4820	NHT-5.7.2	Mech. Work including install valves fittings, and flushing pipes Group Two	1Each	$41,400	11-Jan-15	09-Feb-15
	Subtotal		**1**	**$41,400**	**11-Jan-15**	**09-Feb-15**

Resource Control Report

Resource ID Name						
Activi ID	Resource ID	Activity Name	Budgeted Units	Budgeted Cost	Start	Finish
		Supply and install all pipes,valves, fittings ...etc, PN 16 for all internal fittings.Construct complete water meter connection chambers at 200 mm pipeline and connect to the existing networks and mains. Works will include excavation,				
NHT4380	NHT-5.7.3	Construct -Battir Connection chamber @ Sta.A7+410	1Each	$41,400	24-Sep-14	14-Oct-14
	Subtotal		**1**	**$41,400**	**24-Sep-14**	**14-Oct-14**
		Supply and install all pipes,valves, fittings ...etc, PN 25 for all internal fittings.Construct complete water meter connection chambers at 100 mm pipeline and connect to the existing networks and mains. Works will include excavation,				
NHT4550	NHT-5.7.4	Construct -Wadi Fukin Connection chamber @ Sta.B0+957	1Each	$40,300	12-Nov-14	29-Nov-14
	Subtotal		**1**	**$40,300**	**12-Nov-14**	**29-Nov-14**
	Subtotal		**4**	**$193,100**	**23-Sep-14**	**09-Feb-15**
	Distribution Pipelines					
		Furnish & install of welded steel pipes DN 150 mm and threaded DN 50mm (Double Trench) wrapped from outside by polyethylene layer applied by the extrusion method				
NHT3920	NHT-5.8.1	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (790 LM)	761LM	$79,144	04-Jun-14	19-Jun-14
NHT4050	NHT-5.8.1	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (777 LM)	749LM	$77,896	21-Jun-14	23-Jul-14
	Subtotal		**1510**	**$157,040**	**04-Jun-14**	**23-Jul-14**
		Ditto, but for steel pipes DN 100 mm and DN 50mm.				
NHT3320	NHT-5.8.2	Trench excavation for 100mm main pipeline at Hussan village length approx. (430 LM)	415LM	$30,503	03-Nov-14	11-Nov-14
NHT4530	NHT-5.8.2	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (885 LM)	885LM	$65,048	28-Oct-14	12-Nov-14
	Subtotal		**1300**	**$95,550**	**28-Oct-14**	**12-Nov-14**
		furnish & install of welded steel pipes DN 75 mm wrapped from outside by polyethylene layer applied by the extrusion method and lined from inside with a layer of cement mortar, length of each pipe 12.2 m				
NHT2682	NHT-5.8.3	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (130 LM)	130LM	$6,409	14-Apr-14	19-Apr-14
NHT2840	NHT-5.8.3	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection(750 LM)	750LM	$36,975	14-Jun-14	25-Jun-14
NHT2980	NHT-5.8.3	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (240 LM)	240LM	$11,832	05-Jul-14	14-Jul-14
	Subtotal		**1120**	**$55,216**	**14-Apr-14**	**14-Jul-14**
		Ditto, but for external coated and threaded galvanized steel pipes DN 50 mm wall thickness 3.65 mm, length of each pipe 6 m, to ASTM 53- grade B schedule 40. Unit prices shall include supplying, welding, excavation,				
NHT2987	NHT-5.8.4	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (880 LM)	680LM	$21,080	14-Jul-14	06-Aug-14
NHT3763	NHT-5.8.4	Bedding (crushed stone) and install the above main and distribution Steel pipe with welding inspection (366 LM)	200LM	$6,200	24-May-14	01-Jun-14
NHT4410	NHT-5.8.4	Trench Excavation, bedding, install & backfill for 50mm pipes (7+400 to 8+100) (700 LM)	700LM	$21,700	13-Oct-14	05-Nov-14
	Subtotal		**1580**	**$48,980**	**24-May-14**	**05-Nov-14**
	Subtotal		**5510**	**$356,786**	**14-Apr-14**	**12-Nov-14**
	Isolation Flanged Buried Gate Valves Chambers on Distribution pipelines					

Resource Control Report

Resource ID Name

Activi ID	Resource ID	Activity Name	Budgeted Units	Budgeted Cost	Start	Finish
		Supply and install complete PN16 bar, DN 150 mm flanged Gate Valve and its chamber as shown on detail No. C907 and according to the related clauses of the technical specifications.				
NHT3420	NHT-5.9.1	Construct -Gate Valve chamber @ Battir village	5Each	$37,750	30-Dec-14	13-Jan-15
	Subtotal		**5**	**$37,750**	**30-Dec-14**	**13-Jan-15**
		Ditto but for DN 100 mm flanged Gate Valve				
NHT3350	NHT-5.9.2	Construct AR/AV Valve chamber @ Hussan village	7Each	$46,900	11-Nov-14	25-Nov-14
	Subtotal		**7**	**$46,900**	**11-Nov-14**	**25-Nov-14**
		Ditto but for DN 75 mm flanged Gate Valve				
NHT2682	NHT-5.9.3	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (130 LM)	1Each	$5,000	14-Apr-14	19-Apr-14
NHT2840	NHT-5.9.3	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection(750 LM)	7Each	$35,000	14-Jun-14	25-Jun-14
NHT2980	NHT-5.9.3	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (240 LM)	2Each	$10,000	05-Jul-14	14-Jul-14
	Subtotal		**10**	**$50,000**	**14-Apr-14**	**14-Jul-14**
		Ditto but for DN 50 mm threaded Gate Valve				
NHT4420	NHT-5.9.4	Gate Valves	15Each	$69,000	19-Oct-14	12-Nov-14
	Subtotal		**15**	**$69,000**	**19-Oct-14**	**12-Nov-14**
	Subtotal		**37**	**$203,650**	**14-Apr-14**	**13-Jan-15**
		Washout Chamber on Distribution pipelines				
		Supply and install complete PN 16 bar, DN 75 mm washout and its chamber on DN 150 mm and on DN 100 mm pipelines as per detail C903 Type A "washout outfall in urban areas and				
NHT4820	NHT-5.10.1	Mech. Work including install valves fittings, and flushing pipes Group Two	5Each	$30,000	11-Jan-15	09-Feb-15
	Subtotal		**5**	**$30,000**	**11-Jan-15**	**09-Feb-15**
		Supply and install complete PN 16 bar, DN 50 mm washout and its chamber on DN 75 and DN 50 mm pipelines as per detail C903 Type A "washout outfall in urban areas				
NHT4820	NHT-5.10.2	Mech. Work including install valves fittings, and flushing pipes Group Two	3Each	$15,600	11-Jan-15	09-Feb-15
	Subtotal		**3**	**$15,600**	**11-Jan-15**	**09-Feb-15**
	Subtotal		**8**	**$45,600**	**11-Jan-15**	**09-Feb-15**
		Combination Air Valve Chambers				
		Supply and install complete PN 16 bar, DN 50 mm Combination Air Valve (combination of air and vacuum valve and air release valve) and its chamber on 100,75,50 mm pipeline				
NHT4820	NHT-5.11.1	Mech. Work including install valves fittings, and flushing pipes Group Two	5Each	$32,500	11-Jan-15	09-Feb-15
	Subtotal		**5**	**$32,500**	**11-Jan-15**	**09-Feb-15**
	Subtotal		**5**	**$32,500**	**11-Jan-15**	**09-Feb-15**
		House Connections				

Resource Control Report

Resource ID Name

Activi ID	Resource ID	Activity Name	Budgeted Units	Budgeted Cost	Start	Finish
		Supply and Install complete House Connections with prepaid water meters as per details C-924, C-922, length of house connections will start from the end of house connection pipes				
NHT2854	NHT-5.12.1	Water meters and House connection	50Each	$18,000	25-Jun-14	20-Jul-14
NHT3105	NHT-5.12.1	Water meters and House connection	50Each	$18,000	11-Oct-14	27-Oct-14
NHT3345	NHT-5.12.1	Water meters and House connection	80Each	$28,800	11-Nov-14	30-Nov-14
NHT3415	NHT-5.12.1	Water meters and House connection	50Each	$18,000	30-Dec-14	19-Jan-15
NHT3769	NHT-5.12.1	Water meters and House connection	50Each	$18,000	01-Jun-14	17-Jun-14
NHT3935	NHT-5.12.1	Water meters and House connection	50Each	$18,000	19-Jun-14	10-Jul-14
NHT4065	NHT-5.12.1	Water meters and House connection	50Each	$18,000	23-Jul-14	23-Aug-14
NHT4415	NHT-5.12.1	Water meters and House connection	60Each	$21,600	05-Nov-14	24-Nov-14
NHT4545	NHT-5.12.1	Water meters and House connection	60Each	$21,600	12-Nov-14	01-Dec-14
	Subtotal		**500**	**$180,000**	**01-Jun-14**	**19-Jan-15**
	Subtotal		**500**	**$180,000**	**01-Jun-14**	**19-Jan-15**
		Asphalt reinstatement over trenches with 250 mm pipes, including asphalt layer (5 cm), prime coat (MC70), as per applicaple details no. C-601, C-901 and C-902				
NHT3370	NHT-6.1	Restoration pavement full width	1000LM	$28,000	06-Dec-14	13-Dec-14
NHT3440	NHT-6.1	Restoration pavement full width	1100LM	$30,800	25-Jan-15	01-Feb-15
	Subtotal		**2100**	**$58,800**	**06-Dec-14**	**01-Feb-15**
		Reinforced Concrete support block at 7 m distance in slope area related detail in sheet S08.				
NHT3460	NHT-7.1	Excavation and R.concrete foundation supports for main pipeline	40Cu m	$13,200	05-Mar-14	27-Mar-14
	Subtotal		**40**	**$13,200**	**05-Mar-14**	**27-Mar-14**
		10 cm Plain concrete for blinding under concrete supports detail in S08.				
NHT3460	NHT-7.2	Excavation and R.concrete foundation supports for main pipeline	70Sq m	$1,750	05-Mar-14	27-Mar-14
	Subtotal		**70**	**$1,750**	**05-Mar-14**	**27-Mar-14**
		Main Road crossings Detail C901 - Type F				
NHT2700	NHT-7.3	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (1210 LM)	8LM	$1,368	20-Mar-14	14-Apr-14
NHT2840	NHT-7.3	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection(750 LM)	9LM	$1,539	14-Jun-14	25-Jun-14
NHT2987	NHT-7.3	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (880 LM)	8LM	$1,368	14-Jul-14	06-Aug-14
NHT3090	NHT-7.3	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (330 LM)	8LM	$1,368	30-Sep-14	11-Oct-14
NHT3330	NHT-7.3	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (430 LM)	8LM	$1,368	03-Nov-14	11-Nov-14
NHT3400	NHT-7.3	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection(950 LM)	8LM	$1,368	13-Dec-14	30-Dec-14
NHT3630	NHT-7.3	Bedding (crushed stone) and install the above main and distribution Steel pipe with welding inspection (1210LM)	10LM	$1,710	15-Apr-14	05-May-14
NHT3740	NHT-7.3	Bedding (crushed stone) and install the above main and distribution Steel pipe with welding inspection (874 LM)	8LM	$1,368	11-May-14	24-May-14
NHT3763	NHT-7.3	Bedding (crushed stone) and install the above main and distribution Steel pipe with welding inspection (366 LM)	8LM	$1,368	24-May-14	01-Jun-14
NHT3920	NHT-7.3	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (790 LM)	8LM	$1,368	04-Jun-14	19-Jun-14
NHT4050	NHT-7.3	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (777 LM)	8LM	$1,368	21-Jun-14	23-Jul-14
NHT4530	NHT-7.3	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (885 LM)	9LM	$1,539	28-Oct-14	12-Nov-14

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Resource ID Name

Activi ID	Resource ID	Activity Name	Budgeted Units	Budgeted Cost	Start	Finish
	Subtotal		**100**	**$17,100**	**20-Mar-14**	**30-Dec-14**
	Pipeline Marking					
NHT2682	NHT-8.1	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (130 LM)	1Each	$131	14-Apr-14	19-Apr-14
NHT2700	NHT-8.1	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (1210 LM)	5Each	$655	20-Mar-14	14-Apr-14
NHT2840	NHT-8.1	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection(750 LM)	4Each	$524	14-Jun-14	25-Jun-14
NHT2980	NHT-8.1	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (240 LM)	1Each	$131	05-Jul-14	14-Jul-14
NHT2987	NHT-8.1	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (880 LM)	4Each	$524	14-Jul-14	06-Aug-14
NHT3090	NHT-8.1	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (330 LM)	2Each	$262	30-Sep-14	11-Oct-14
NHT3330	NHT-8.1	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (430 LM)	4Each	$524	03-Nov-14	11-Nov-14
NHT3400	NHT-8.1	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection(950 LM)	1Each	$131	13-Dec-14	30-Dec-14
NHT3630	NHT-8.1	Bedding (crushed stone) and install the above main and distribution Steel pipe with welding inspection (1210LM)	4Each	$524	15-Apr-14	05-May-14
NHT3740	NHT-8.1	Bedding (crushed stone) and install the above main and distribution Steel pipe with welding inspection (874 LM)	4Each	$524	11-May-14	24-May-14
NHT3763	NHT-8.1	Bedding (crushed stone) and install the above main and distribution Steel pipe with welding inspection (366 LM)	2Each	$262	24-May-14	01-Jun-14
NHT3905	NHT-8.1	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (40 LM)	1Each	$131	01-Jun-14	04-Jun-14
NHT3920	NHT-8.1	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (790 LM)	4Each	$524	04-Jun-14	19-Jun-14
NHT4050	NHT-8.1	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (777 LM)	4Each	$524	21-Jun-14	23-Jul-14
NHT4410	NHT-8.1	Trench Excavation, bedding, install & backfill for 50mm pipes (7+400 to 8+100) (700 LM)	4Each	$524	13-Oct-14	05-Nov-14
NHT4513	NHT-8.1	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (90 LM)	1Each	$131	25-Oct-14	28-Oct-14
NHT4530	NHT-8.1	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (885 LM)	4Each	$524	28-Oct-14	12-Nov-14
	Subtotal		**50**	**$6,550**	**20-Mar-14**	**30-Dec-14**
	Restoration, Cleaning, washing, hydraulic test and disinfection of the main piplines					
NHT4850	NHT-9	Final Disinfection and Pressure Testing For main and dist.Pipeline	1LS	$10,000	09-Mar-15	24-Mar-15
	Subtotal		**1**	**$10,000**	**09-Mar-15**	**24-Mar-15**
	Steel pipe monitoring stationsper sheet PD-08 and related causes in the technical specifications at stations 22+50, 27+50, 32+50 and 37+50 or as directed otherwise by engineers					
NHT4820	NHT-10.1	Mech. Work including install valves fittings, and flushing pipes Group Two	4Each	$40,000	11-Jan-15	09-Feb-15
	Subtotal		**4**	**$40,000**	**11-Jan-15**	**09-Feb-15**
Subtotal			**46604**	**$3,738,306**	**05-Mar-14**	**24-Mar-15**
Item 02 Nahaleen Roadway						
Item 1 Part I Base BOQ Earth Work						
Excavation						
NHT2520	NHT-1.01.a	Excavation for reconstruction road From Sta. A0+000 To A0+720	5635Cu m	$47,898	23-Feb-14	20-Mar-14
NHT2530	NHT-1.01.a	Embankment for reconstruction road including subgrade SEG.A From Sta.A0+720 to Sta.A0+000	3194Cu m	$27,149	13-Mar-14	07-Apr-14

Resource Control Report

Resource ID Name

Activi ID	Resource ID	Activity Name	Budgeted Units	Budgeted Cost	Start	Finish
NHT2540	NHT-1.01.a	Excavation for reconstruction road From Sta. A0+720 To A1+440	5635Cu m	$47,898	20-Mar-14	14-Apr-14
NHT2550	NHT-1.01.a	Embankment for reconstruction road including subgrade SEG.A From Sta.A1+440 to Sta.A0+720	3194Cu m	$27,149	14-Apr-14	11-May-14
NHT2820	NHT-1.01.a	Excavation for reconstruction road including subgrade and backfilling if required	566Cu m	$4,811	12-Jun-14	22-Jun-14
NHT2950	NHT-1.01.a	Excavation for reconstruction road including subgrade and backfilling if required	1065Cu m	$9,053	25-Jun-14	20-Jul-14
NHT3070	NHT-1.01.a	Excavation for reconstruction road including subgrade and backfilling if required	532Cu m	$4,522	28-Sep-14	16-Oct-14
NHT3190	NHT-1.01.a	Excavation for reconstruction road including subgrade and backfilling if required	1597Cu m	$13,575	16-Oct-14	03-Nov-14
NHT3260	NHT-1.01.a	Excavation for reconstruction road including subgrade and backfilling if required	1597Cu m	$13,575	25-Nov-14	15-Dec-14
NHT3460	NHT-1.01.a	Excavation and R.concrete foundation supports for main pipeline	3194Cu m	$27,149	05-Mar-14	27-Mar-14
NHT3540	NHT-1.01.a	Saw Cut to Edge of Existing Asphalt ,and Excavation for road widening	1650Cu m	$14,025	05-Mar-14	23-Mar-14
NHT3590	NHT-1.01.a	Saw Cut to Edge of Existing Asphalt , Excavation for road widening and slope cut	1065Cu m	$9,053	06-Apr-14	30-Apr-14
NHT3715	NHT-1.01.a	Saw Cut to Edge of Existing Asphalt , Excavation for road widening and slope cut	1065Cu m	$9,053	30-Apr-14	22-May-14
NHT3870	NHT-1.01.a	Saw Cut to Existing Asphalt and Excavation for reconstruction road including subgrade work	2023Cu m	$17,196	27-May-14	17-Jun-14
NHT4020	NHT-1.01.a	Saw Cut to Existing Asphalt and Excavation for reconstruction road including subgrade work	2182Cu m	$18,547	18-Jun-14	14-Jul-14
NHT4180	NHT-1.01.a	Saw Cut to Existing Asphalt and Excavation for reconstruction road including subgrade work	2129Cu m	$18,097	04-Sep-14	20-Sep-14
NHT4280	NHT-1.01.a	Saw Cut to Existing Asphalt and Excavation for reconstruction road including subgrade work	2129Cu m	$18,097	21-Sep-14	11-Oct-14
NHT4400	NHT-1.01.a	Excavation for reconstruction road including subgrade and backfilling if required	3992Cu m	$33,932	11-Oct-14	22-Oct-14
NHT4480	NHT-1.01.a	Saw Cut to Existing Asphalt and Excavation for reconstruction road including subgrade work	1278Cu m	$10,863	22-Oct-14	03-Nov-14
NHT4640	NHT-1.01.a	Saw Cut to Existing Asphalt and Excavation for reconstruction road including subgrade work	1278Cu m	$10,863	04-Feb-15	16-Feb-15
	Subtotal		**45000**	**$382,500**	**23-Feb-14**	**16-Feb-15**
	Topping					
NHT4730	NHT-1.02.b	Topping	4000Cu m	$61,600	14-Jan-15	12-Feb-15
	Subtotal		**4000**	**$61,600**	**14-Jan-15**	**12-Feb-15**
	Subtotal		**49000**	**$444,100**	**23-Feb-14**	**16-Feb-15**
	Item 2 Part I Base BOQ Sub-base and base Course					
	Crushed Aggregate Compacted Base Course Layer 150 mm thick Class A.					
NHT3240	NHT-2.02.a	Curbstone ,concrete side walks, ramps including 15 cm base course under side walk	143Sq m	$629	11-Nov-14	24-Nov-14
NHT3290	NHT-2.02.a	Curbstone ,concrete side walks, ramps including 15 cm base course under side walk	238Sq m	$1,047	28-Dec-14	10-Jan-15
NHT4000	NHT-2.02.a	Reinforced concrete side walks, ramps and stairs included15 cm base course under side walk	2504Sq m	$11,018	25-Aug-14	03-Sep-14
NHT4160	NHT-2.02.a	Reinforced concrete side walks, ramps and stairs included15 cm base course under side walk	2504Sq m	$11,018	04-Oct-14	20-Oct-14
NHT4260	NHT-2.02.a	Reinforced concrete side walks, ramps and stairs including 15 cm base course under side walk	2861Sq m	$12,588	02-Nov-14	11-Nov-14
NHT4360	NHT-2.02.a	Reinforced concrete side walks, ramps and stairs including 15 cm base course under side walk	2027Sq m	$8,919	30-Nov-14	10-Dec-14
NHT4620	NHT-2.02.a	Reinforced concrete side walks, ramps and stairs included 15 cm base course under side walk	2385Sq m	$10,494	21-Jan-15	03-Feb-15
NHT4700	NHT-2.02.a	Reinforced concrete side walks, ramps and stairs included 15 cm base course under side walk	3338Sq m	$14,687	22-Mar-15	30-Mar-15

Resource Control Report

Resource ID Name

Activi ID	Resource ID	Activity Name	Budgeted Units	Budgeted Cost	Start	Finish
	Subtotal		**16000**	**$70,400**	**25-Aug-14**	**30-Mar-15**
	Crushed aggregate Compacted Base Course Layer 200 mm thick Class A.					
NHT2780	NHT-2.02.b	20 cm thick for first base course layer	8945Sq m	$44,725	24-May-14	12-Jun-14
NHT2790	NHT-2.02.b	20 cm thick for second base course layer	8273Sq m	$41,365	12-Jun-14	05-Jul-14
NHT2802	NHT-2.02.b	20 cm thick for first base course layer	8945Sq m	$44,725	05-Jul-14	06-Aug-14
NHT2805	NHT-2.02.b	20 cm thick for second base course layer	8273Sq m	$41,365	06-Aug-14	26-Aug-14
NHT2890	NHT-2.02.b	20 cm thick for base course layer	3878Sq m	$19,390	26-Aug-14	09-Sep-14
NHT3050	NHT-2.02.b	20 cm thick for base course layer	5895Sq m	$29,475	09-Sep-14	25-Sep-14
NHT3130	NHT-2.02.b	20 cm thick for base course layer	2068Sq m	$10,340	29-Oct-14	12-Nov-14
NHT3220	NHT-2.02.b	20 cm thick for first base course layer	7239Sq m	$36,195	21-Oct-14	09-Nov-14
NHT3230	NHT-2.02.b	20 cm thick for second base course layer	7239Sq m	$36,195	09-Nov-14	30-Nov-14
NHT3270	NHT-2.02.b	20 cm thick for first base course layer	7239Sq m	$36,195	02-Dec-14	22-Dec-14
NHT3280	NHT-2.02.b	20 cm thick for second base course layer	7239Sq m	$36,195	22-Dec-14	12-Jan-15
NHT3570	NHT-2.02.b	Subgrade and Install first and second layer of 20 cm base course for widening the road LHS	6416Sq m	$32,080	13-Mar-14	06-Apr-14
NHT3685	NHT-2.02.b	Subgrad and install first and second layer of 20 cm base course for widening the road	3414Sq m	$17,070	14-May-14	07-Jun-14
NHT3830	NHT-2.02.b	Subgrad and install first and second layer of 20 cm base course for widening the road	3102Sq m	$15,510	17-Jun-14	16-Jul-14
NHT3950	NHT-2.02.b	20 cm thick for first base course layer	3619Sq m	$18,095	09-Jul-14	10-Aug-14
NHT3960	NHT-2.02.b	20 cm thick for second base course layer	3619Sq m	$18,095	14-Jul-14	13-Aug-14
NHT4110	NHT-2.02.b	20 cm thick for first base course layer	3619Sq m	$18,095	17-Aug-14	07-Sep-14
NHT4120	NHT-2.02.b	20 cm thick for second base course layer	3619Sq m	$18,095	07-Sep-14	28-Sep-14
NHT4210	NHT-2.02.b	20 cm thick for first base course layer	3619Sq m	$18,095	28-Sep-14	23-Oct-14
NHT4220	NHT-2.02.b	20 cm thick for second base course layer	3619Sq m	$18,095	05-Oct-14	30-Oct-14
NHT4310	NHT-2.02.b	20 cm thick for first base course layer	3619Sq m	$18,095	21-Oct-14	11-Nov-14
NHT4320	NHT-2.02.b	20 cm thick for second base course layer	3619Sq m	$18,095	04-Nov-14	27-Nov-14
NHT4440	NHT-2.02.b	20 cm thick for first base course layer	9721Sq m	$48,605	23-Nov-14	07-Dec-14
NHT4450	NHT-2.02.b	20 cm thick for second base course layer	8790Sq m	$43,950	01-Dec-14	16-Dec-14
NHT4570	NHT-2.02.b	20 cm thick for first base course layer	4343Sq m	$21,715	16-Dec-14	04-Jan-15
NHT4580	NHT-2.02.b	20 cm thick for second base course layer	4343Sq m	$21,715	30-Dec-14	17-Jan-15
NHT4660	NHT-2.02.b	20 cm thick for first base course layer	4343Sq m	$21,715	19-Feb-15	07-Mar-15
NHT4670	NHT-2.02.b	20 cm thick for second base course layer	4343Sq m	$21,715	02-Mar-15	17-Mar-15
	Subtotal		**153000**	**$765,000**	**13-Mar-14**	**17-Mar-15**
	Crushed aggregate Compacted Base Course Layer 200 mm thick Class A. for temporary detours					
NHT4710	NHT-2.02.c	B.C 20 cm Detours	3000Sq m	$18,000	06-Nov-14	19-Nov-14
	Subtotal		**3000**	**$18,000**	**06-Nov-14**	**19-Nov-14**
	Subtotal		**172000**	**$853,400**	**13-Mar-14**	**30-Mar-15**
	Item 3 Part I Base BOQ Asphalt Work					
	Furnishing and applying bituminous Prime coat (rate of application 1.20 - 2.0 kg/m2)					
NHT2800	NHT-3.01	7cm Asphalt wearing course including prime coat	7500Sq m	$6,000	05-Jul-14	10-Jul-14
NHT2809	NHT-3.01	7cm Asphalt wearing course including prime coat	7500Sq m	$6,000	26-Aug-14	30-Aug-14
NHT2930	NHT-3.01	7cm asphalt wearing course including prime coat	4800Sq m	$3,840	09-Sep-14	13-Sep-14
NHT3055	NHT-3.01	7cm asphalt wearing course including prime coat	6200Sq m	$4,960	25-Sep-14	28-Sep-14
NHT3170	NHT-3.01	7 cm Asphalt wearing course including prime coat	3000Sq m	$2,400	12-Nov-14	16-Nov-14

Resource Control Report

Resource ID Name

Activi ID	Resource ID	Activity Name	Budgeted Units	Budgeted Cost	Start	Finish
NHT3245	NHT-3.01	7 cm Asphalt wearing course including prime	7500Sq m	$6,000	24-Nov-14	26-Nov-14
NHT3295	NHT-3.01	7 cm Asphalt wearing course including prime	7500Sq m	$6,000	10-Jan-15	12-Jan-15
NHT3850	NHT-3.01	7 cm Asphalt wearing layer for road widening & 5cm overlay asphalt above milling road area including prime& tack coat	6000Sq m	$4,800	23-Jul-14	04-Aug-14
NHT3980	NHT-3.01	5cm asphalt binder course including prime coat	3103Sq m	$2,482	19-Aug-14	21-Aug-14
NHT4140	NHT-3.01	5cm asphalt binder course including prime coat	3103Sq m	$2,482	28-Sep-14	02-Oct-14
NHT4240	NHT-3.01	5cm asphalt binder course including prime coat	3103Sq m	$2,482	30-Oct-14	04-Nov-14
NHT4340	NHT-3.01	5cm asphalt binder course including prime coat	3103Sq m	$2,482	27-Nov-14	02-Dec-14
NHT4460	NHT-3.01	5cm asphalt binder course including prime coat	7140Sq m	$5,712	16-Dec-14	20-Dec-14
NHT4600	NHT-3.01	5cm asphalt binder course including prime coat	3724Sq m	$2,979	17-Jan-15	19-Jan-15
NHT4680	NHT-3.01	5cm asphalt binder course including prime coat	3724Sq m	$2,979	17-Mar-15	19-Mar-15
NHT4708	NHT-3.01	5 cm Asphalt wearing course including prime and tack coats	31000Sq m	$24,800	30-Mar-15	09-Apr-15
	Subtotal		**108000**	**$86,400**	**05-Jul-14**	**09-Apr-15**
		Furnishing and applying bituminous Tack coat (rate of application 0.1 - 0.6 kg/m2)				
NHT3850	NHT-3.02	7 cm Asphalt wearing layer for road widening & 5cm overlay asphalt above milling road area including prime& tack coat	20000Sq m	$16,000	23-Jul-14	04-Aug-14
NHT4708	NHT-3.02	5 cm Asphalt wearing course including prime and tack coats	28000Sq m	$22,400	30-Mar-15	09-Apr-15
	Subtotal		**48000**	**$38,400**	**23-Jul-14**	**09-Apr-15**
		50 mm thick bituminous wearing course				
NHT3850	NHT-3.03.a	7 cm Asphalt wearing layer for road widening & 5cm overlay asphalt above milling road area including prime& tack coat	20000Sq m	$264,000	23-Jul-14	04-Aug-14
NHT4708	NHT-3.03.a	5 cm Asphalt wearing course including prime and tack coats	55000Sq m	$726,000	30-Mar-15	09-Apr-15
	Subtotal		**75000**	**$990,000**	**23-Jul-14**	**09-Apr-15**
		70 mm thick bituminous wearing course				
NHT2800	NHT-3.03.b	7cm Asphalt wearing course including prime coat	7500Sq m	$112,500	05-Jul-14	10-Jul-14
NHT2809	NHT-3.03.b	7cm Asphalt wearing course including prime coat	7500Sq m	$112,500	26-Aug-14	30-Aug-14
NHT2930	NHT-3.03.b	7cm asphalt wearing course including prime coat	4800Sq m	$72,000	09-Sep-14	13-Sep-14
NHT3055	NHT-3.03.b	7cm asphalt wearing course including prime coat	6200Sq m	$93,000	25-Sep-14	28-Sep-14
NHT3170	NHT-3.03.b	7 cm Asphalt wearing course including prime coat	3000Sq m	$45,000	12-Nov-14	16-Nov-14
NHT3245	NHT-3.03.b	7 cm Asphalt wearing course including prime	7500Sq m	$112,500	24-Nov-14	26-Nov-14
NHT3295	NHT-3.03.b	7 cm Asphalt wearing course including prime	7500Sq m	$112,500	10-Jan-15	12-Jan-15
NHT3850	NHT-3.03.b	7 cm Asphalt wearing layer for road widening & 5cm overlay asphalt above milling road area including prime& tack coat	6000Sq m	$90,000	23-Jul-14	04-Aug-14
	Subtotal		**50000**	**$750,000**	**05-Jul-14**	**12-Jan-15**
		50 mm thick bituminous wearing course for temporary detours				
NHT4720	NHT-3.03.c	Wearing 5 cm Detour	3000Sq m	$40,500	19-Nov-14	24-Nov-14
	Subtotal		**3000**	**$40,500**	**19-Nov-14**	**24-Nov-14**
		Spreading and compacting 50 mm thick bituminous binder course				
NHT3980	NHT-3.05.b	5cm asphalt binder course including prime coat	3103Sq m	$40,339	19-Aug-14	21-Aug-14
NHT4140	NHT-3.05.b	5cm asphalt binder course including prime coat	3103Sq m	$40,339	28-Sep-14	02-Oct-14
NHT4240	NHT-3.05.b	5cm asphalt binder course including prime coat	3103Sq m	$40,339	30-Oct-14	04-Nov-14
NHT4340	NHT-3.05.b	5cm asphalt binder course including prime coat	3103Sq m	$40,339	27-Nov-14	02-Dec-14
NHT4460	NHT-3.05.b	5cm asphalt binder course including prime coat	7140Sq m	$92,820	16-Dec-14	20-Dec-14

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Resource ID Name

Activi ID	Resource ID	Activity Name	Budgeted Units	Budgeted Cost	Start	Finish
NHT4600	NHT-3.05.b	5cm asphalt binder course including prime coat	3724Sq m	$48,412	17-Jan-15	19-Jan-15
NHT4680	NHT-3.05.b	5cm asphalt binder course including prime coat	3724Sq m	$48,412	17-Mar-15	19-Mar-15
	Subtotal		**27000**	**$351,000**	**19-Aug-14**	**19-Mar-15**
	Hot asphalt mix for patching and leveling course					
NHT3850	NHT-3.08.a	7 cm Asphalt wearing layer for road widening & 5cm overlay asphalt above milling road area including prime& tack coat	100Sq m	$10,500	23-Jul-14	04-Aug-14
NHT4708	NHT-3.08.a	5 cm Asphalt wearing course including prime and tack coats	200Sq m	$21,000	30-Mar-15	09-Apr-15
	Subtotal		**300**	**$31,500**	**23-Jul-14**	**09-Apr-15**
	Asphalt Milling					
NHT3840	NHT-3.10.a	Asphalt milling for the existing road	15000Sq m	$25,500	16-Jul-14	23-Jul-14
NHT4705	NHT-3.10.a	Milling	23000Sq m	$39,100	19-Mar-15	28-Mar-15
	Subtotal		**38000**	**$64,600**	**16-Jul-14**	**28-Mar-15**
	Subtotal		**349300**	**$2,352,400**	**05-Jul-14**	**09-Apr-15**
	Item 4 Part I Base BOQ Miscellaneous Work					
	400 mm dia R.C. pipe					
NHT3890	NHT-4.02.a	Construct 600 &400 mm precast concrete pipe for storm sytem with manholes &catch basin from st. A5+800 to A6+630	24LM	$4,080	04-Jun-14	14-Jul-14
NHT4030	NHT-4.02.a	Construct 600&400 mm precast concrete pipe for storm sytem with manholes & catch basin from st. A6+630 to A7+460	17LM	$2,890	14-Jul-14	25-Aug-14
NHT4200	NHT-4.02.a	Construct 400 mm precast Concrete crossing pipe for storm system with catch basin from sta. A5+800 to A6+630	51LM	$8,670	07-Sep-14	11-Oct-14
NHT4300	NHT-4.02.a	Construct 400 mm precast Concrete crossing pipe for storm system with catch basin from sta. A6+630 to A7+460	46LM	$7,820	23-Sep-14	27-Oct-14
NHT4650	NHT-4.02.a	Construct 400 mm precast Concrete crossing pipe for storm system with catch basin from sta. B0+000 to B0+985 (985 LM)	92LM	$15,640	08-Feb-15	01-Mar-15
NHT4750	NHT-4.02.a	Concrete pipe 400 mm	20LM	$3,400	02-Dec-14	03-Jan-15
	Subtotal		**250**	**$42,500**	**04-Jun-14**	**01-Mar-15**
	600 mm dia R.C. pipe					
NHT3725	NHT-4.02.b	Construct 600 & 400 mm precast Concrete pipe for storm sytem with manholes &catch basin from st. A5+480-A5+800 (320 LM)	320LM	$70,400	25-May-14	12-Jun-14
NHT3890	NHT-4.02.b	Construct 600 &400 mm precast concrete pipe for storm sytem with manholes &catch basin from st. A5+800 to A6+630	830LM	$182,600	04-Jun-14	14-Jul-14
NHT4030	NHT-4.02.b	Construct 600&400 mm precast concrete pipe for storm sytem with manholes & catch basin from st. A6+630 to A7+460	830LM	$182,600	14-Jul-14	25-Aug-14
NHT4230	NHT-4.02.b	Construct outfall 600mm concrete pipe as storm system with manholes&headwall for hussan @ st.A6+570 (134 LM)	134LM	$29,480	22-Sep-14	04-Oct-14
NHT4330	NHT-4.02.b	Construct outfall 600mm concrete pipe as storm system with manholes&headwall for hussan @ A7+172 (150 LM)	150LM	$33,000	15-Oct-14	27-Oct-14
NHT4500	NHT-4.02.b	Construct outfall 600mm concrete pipe as storm system with manholes&headwall for hussan @ st.B0+537&B0+714(115 & 50	165LM	$36,300	29-Nov-14	09-Dec-14
NHT4760	NHT-4.02.b	60 cm R.C. pipe	971LM	$213,620	16-Dec-14	17-Jan-15
	Subtotal		**3400**	**$748,000**	**25-May-14**	**17-Jan-15**
	800 mm dia R.C. pipe					
NHT3880	NHT-4.02.c	Construct -RHS Dia.800 mm of precast pipe culvert @ Sta.A6+198 with outlet	8LM	$2,240	28-May-14	11-Jun-14
NHT4190	NHT-4.02.c	Construct -LHS Dia.800 mm of precast pipe culvert @ Sta.A6+198 with inlet	8LM	$2,240	06-Sep-14	16-Sep-14

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Resource ID Name

Activi ID	Resource ID	Activity Name	Budgeted Units	Budgeted Cost	Start	Finish
NHT4490	NHT-4.02.c	Construct 600 &400 mm precast concrete pipe for storm sytem with manholes & catch basin from sta. B0+000 to sta. B0+985	89LM	$24,920	25-Oct-14	29-Nov-14
	Subtotal		**105**	**$29,400**	**28-May-14**	**29-Nov-14**
	1000 mm dia R.C. pipe					
NHT3720	NHT-4.02.d	Construct -RHS Dia.1000 mm of double pipe culvert @ Sta.A5+469 with inlet	25LM	$8,500	11-May-14	25-May-14
	Subtotal		**25**	**$8,500**	**11-May-14**	**25-May-14**
	2*100 cm R.C. pipe					
NHT3720	NHT-4.02.e	Construct -RHS Dia.1000 mm of double pipe culvert @ Sta.A5+469 with inlet	12LM	$8,520	11-May-14	25-May-14
	Subtotal		**12**	**$8,520**	**11-May-14**	**25-May-14**
	Drainage Manholes and Inlets -Manhole size 1.1X1.5 m					
NHT3560	NHT-4.03.a	Construct -LHS Dia.1000 mm of double pipe culvert @ Sta.A5+469 with concrete outlet	16Each	$40,000	13-Mar-14	30-Mar-14
NHT3725	NHT-4.03.a	Construct 600 & 400 mm precast Concrete pipe for storm sytem with manholes &catch basin from st. A5+480-A5+800 (320 LM)	13Each	$32,500	25-May-14	12-Jun-14
NHT4030	NHT-4.03.a	Construct 600&400 mm precast concrete pipe for storm sytem with manholes & catch basin from st. A6+630 to A7+460	19Each	$47,500	14-Jul-14	25-Aug-14
NHT4230	NHT-4.03.a	Construct outfall 600mm concrete pipe as storm system with manholes&headwall for hussan @ st.A6+570 (134 LM)	4Each	$10,000	22-Sep-14	04-Oct-14
NHT4330	NHT-4.03.a	Construct outfall 600mm concrete pipe as storm system with manholes&headwall for hussan @ A7+172 (150 LM)	4Each	$10,000	15-Oct-14	27-Oct-14
NHT4490	NHT-4.03.a	Construct 600 &400 mm precast concrete pipe for storm sytem with manholes & catch basin from sta. B0+000 to sta. B0+985	28Each	$70,000	25-Oct-14	29-Nov-14
	Subtotal		**84**	**$210,000**	**13-Mar-14**	**29-Nov-14**
	Drainage Manholes and Inlets -Manhole size 2.0X2.0 m					
NHT4770	NHT-4.03.b	Manholes size 2.0x2.0m	5Each	$15,500	14-Jan-15	12-Feb-15
	Subtotal		**5**	**$15,500**	**14-Jan-15**	**12-Feb-15**
	Catch basin Drainage Inlet Type A as shown on drawings and directions of the Engineer.					
NHT3890	NHT-4.06.a	Construct 600 &400 mm precast concrete pipe for storm sytem with manholes &catch basin from st. A5+800 to A6+630	6Each	$6,000	04-Jun-14	14-Jul-14
NHT4030	NHT-4.06.a	Construct 600&400 mm precast concrete pipe for storm sytem with manholes & catch basin from st. A6+630 to A7+460	5Each	$5,000	14-Jul-14	25-Aug-14
NHT4200	NHT-4.06.a	Construct 400 mm precast Concrete crossing pipe for storm system with catch basin from sta. A5+800 to A6+630	17Each	$17,000	07-Sep-14	11-Oct-14
NHT4300	NHT-4.06.a	Construct 400 mm precast Concrete crossing pipe for storm system with catch basin from sta. A6+630 to A7+460	16Each	$16,000	23-Sep-14	27-Oct-14
NHT4650	NHT-4.06.a	Construct 400 mm precast Concrete crossing pipe for storm system with catch basin from sta. B0+000 to B0+985 (985 LM)	28Each	$28,000	08-Feb-15	01-Mar-15
	Subtotal		**72**	**$72,000**	**04-Jun-14**	**01-Mar-15**
	Concrete Class - B150					
NHT2560	NHT-4.07.a	Construct R.Concrete Retaining wall from Sta. A0+129to A0+200 RHS (71 LM)	16Cu m	$2,240	02-Mar-14	18-Mar-14
NHT2570	NHT-4.07.a	Construct R.Concrete Retaining wall from Sta. A0+290 to A0+355 RHS (65 LM)	23Cu m	$3,220	15-Mar-14	29-Mar-14
NHT2580	NHT-4.07.a	Construct R.Concrete Retaining wall from Sta. A0+479 to A0+625 LHS (146 LM)	50Cu m	$7,000	26-Mar-14	26-Apr-14
NHT2590	NHT-4.07.a	Construct R.Concrete Retaining wall from Sta. A0+625 to A0+770 LHS (145 LM)	50Cu m	$7,000	10-Apr-14	12-May-14
NHT2600	NHT-4.07.a	Construct R.Concrete Retaining wall from Sta. A0+570 to A0+590	6Cu m	$840	10-Mar-14	15-Mar-14

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Activi ID	Resource ID	Activity Name	Budgeted Units	Budgeted Cost	Start	Finish
NHT2610	NHT-4.07.a	Construct R.Concrete Retaining wall from Sta. A0+800 to A0+840 LHS (40 LM)	18Cu m	$2,520	16-Mar-14	24-Mar-14
NHT2620	NHT-4.07.a	Construct R.Concrete Retaining wall from Sta. A0+880 to A0+990 LHS (110 LM)	35Cu m	$4,900	25-Mar-14	16-Apr-14
NHT2630	NHT-4.07.a	Construct R.Concrete Retaining wall from Sta. A0+918 to A0+990 RHS (72 LM)	25Cu m	$3,500	12-Apr-14	28-Apr-14
NHT2640	NHT-4.07.a	Construct R.Concrete Retaining wall from Sta. A1+422 to A1+300 LHS (122 LM)	46Cu m	$6,440	23-Apr-14	19-May-14
NHT2650	NHT-4.07.a	Construct 2.0x2.0x19 M box culvert @Sta. A0+590	6Cu m	$840	15-Mar-14	10-Apr-14
NHT2660	NHT-4.07.a	Construct 1.5x1.5x12 M box culvert @Sta. A0+953	3Cu m	$420	10-Apr-14	30-Apr-14
NHT2670	NHT-4.07.a	Construct1.5x1.5x15 M box culvert @Sta. A1+356	4Cu m	$560	23-Apr-14	14-May-14
NHT2960	NHT-4.07.a	Construct - 1.5x15m Box culvert @ Sta.A2+225 with concrete inlet and outlet	4Cu m	$560	29-Jun-14	23-Jul-14
NHT3550	NHT-4.07.a	Construct -LHS of 1.0x1.0m Box box culvert @ Sta.A3+636 with concrete outlet	3Cu m	$420	09-Mar-14	27-Mar-14
NHT3560	NHT-4.07.a	Construct -LHS Dia.1000 mm of double pipe culvert @ Sta.A5+469 with concrete outlet	2Cu m	$280	13-Mar-14	30-Mar-14
NHT3600	NHT-4.07.a	Construct -RHS of 1.0x1.0m Box box culvert @ Sta.A3+636 with inlet	4Cu m	$560	16-Apr-14	04-May-14
NHT3688	NHT-4.07.a	Construct - Concrete channel from Sta.3+360 to sta. 3+850 RHS (490 LM)	61Cu m	$8,540	24-May-14	04-Jun-14
NHT3720	NHT-4.07.a	Construct -RHS Dia.1000 mm of double pipe culvert @ Sta.A5+469 with inlet	2Cu m	$280	11-May-14	25-May-14
NHT3880	NHT-4.07.a	Construct -RHS Dia.800 mm of precast pipe culvert @ Sta.A6+198 with outlet	1Cu m	$140	28-May-14	11-Jun-14
NHT4190	NHT-4.07.a	Construct -LHS Dia.800 mm of precast pipe culvert @ Sta.A6+198 with inlet	1Cu m	$140	06-Sep-14	16-Sep-14
	Subtotal		**360**	**$50,400**	**02-Mar-14**	**16-Sep-14**
	Concrete Class - B250					
NHT2560	NHT-4.07.b	Construct R.Concrete Retaining wall from Sta. A0+129to A0+200 RHS (71 LM)	87Cu m	$16,530	02-Mar-14	18-Mar-14
NHT2570	NHT-4.07.b	Construct R.Concrete Retaining wall from Sta. A0+290 to A0+355 RHS (65 LM)	126Cu m	$23,940	15-Mar-14	29-Mar-14
NHT2580	NHT-4.07.b	Construct R.Concrete Retaining wall from Sta. A0+479 to A0+625 LHS (146 LM)	248Cu m	$47,120	26-Mar-14	26-Apr-14
NHT2590	NHT-4.07.b	Construct R.Concrete Retaining wall from Sta. A0+625 to A0+770 LHS (145 LM)	247Cu m	$46,930	10-Apr-14	12-May-14
NHT2600	NHT-4.07.b	Construct R.Concrete Retaining wall from Sta. A0+570 to A0+590 RHS (20 LM)	35Cu m	$6,650	10-Mar-14	15-Mar-14
NHT2610	NHT-4.07.b	Construct R.Concrete Retaining wall from Sta. A0+800 to A0+840 LHS (40 LM)	69Cu m	$13,110	16-Mar-14	24-Mar-14
NHT2620	NHT-4.07.b	Construct R.Concrete Retaining wall from Sta. A0+880 to A0+990 LHS (110 LM)	188Cu m	$35,720	25-Mar-14	16-Apr-14
NHT2630	NHT-4.07.b	Construct R.Concrete Retaining wall from Sta. A0+918 to A0+990 RHS (72 LM)	138Cu m	$26,220	12-Apr-14	28-Apr-14
NHT2640	NHT-4.07.b	Construct R.Concrete Retaining wall from Sta. A1+422 to A1+300 LHS (122 LM)	234Cu m	$44,460	23-Apr-14	19-May-14
NHT3240	NHT-4.07.b	Curbstone ,concrete side walks, ramps including 15 cm base course under side walk	7Cu m	$1,330	11-Nov-14	24-Nov-14
NHT3290	NHT-4.07.b	Curbstone ,concrete side walks, ramps including 15 cm base course under side walk	11Cu m	$2,090	28-Dec-14	10-Jan-15
NHT3560	NHT-4.07.b	Construct -LHS Dia.1000 mm of double pipe culvert @ Sta.A5+469 with concrete outlet	6Cu m	$1,140	13-Mar-14	30-Mar-14
NHT3688	NHT-4.07.b	Construct - Concrete channel from Sta.3+360 to sta. 3+850 RHS (490 LM)	168Cu m	$31,920	24-May-14	04-Jun-14
NHT3720	NHT-4.07.b	Construct -RHS Dia.1000 mm of double pipe culvert @ Sta.A5+469 with inlet	6Cu m	$1,140	11-May-14	25-May-14
NHT3880	NHT-4.07.b	Construct -RHS Dia.800 mm of precast pipe culvert @ Sta.A6+198 with outlet	3Cu m	$570	28-May-14	11-Jun-14
NHT4000	NHT-4.07.b	Reinforced concrete side walks, ramps and stairs included15 cm base course under side walk	118Cu m	$22,420	25-Aug-14	03-Sep-14
NHT4160	NHT-4.07.b	Reinforced concrete side walks, ramps and stairs included15 cm base course under side walk	118Cu m	$22,420	04-Oct-14	20-Oct-14

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Activi ID	Resource ID	Activity Name	Budgeted Units	Budgeted Cost	Start	Finish
NHT4190	NHT-4.07.b	Construct -LHS Dia.800 mm of precast pipe culvert @ Sta.A6+198 with inlet	2Cu m	$380	06-Sep-14	16-Sep-14
NHT4260	NHT-4.07.b	Reinforced concrete side walks, ramps and stairs including 15 cm base course under side walk	135Cu m	$25,650	02-Nov-14	11-Nov-14
NHT4360	NHT-4.07.b	Reinforced concrete side walks, ramps and stairs including 15 cm base course under side walk	96Cu m	$18,240	30-Nov-14	10-Dec-14
NHT4620	NHT-4.07.b	Reinforced concrete side walks, ramps and stairs included 15 cm base course under side walk	113Cu m	$21,470	21-Jan-15	03-Feb-15
NHT4700	NHT-4.07.b	Reinforced concrete side walks, ramps and stairs included 15 cm base course under side walk	158Cu m	$30,020	22-Mar-15	30-Mar-15
NHT4900	NHT-4.07.b	Construct concrete ditch	87Cu m	$16,530	31-Mar-15	21-Apr-15
	Subtotal		**2400**	**$456,000**	**02-Mar-14**	**21-Apr-15**
	Concrete Class - B300					
NHT2650	NHT-4.07.c	Construct 2.0x2.0x19 M box culvert @Sta. A0+590	62Cu m	$12,090	15-Mar-14	10-Apr-14
NHT2660	NHT-4.07.c	Construct 1.5x1.5x12 M box culvert @Sta. A0+953	29Cu m	$5,655	10-Apr-14	30-Apr-14
NHT2670	NHT-4.07.c	Construct1.5x1.5x15 M box culvert @Sta. A1+356	33Cu m	$6,435	23-Apr-14	14-May-14
NHT2960	NHT-4.07.c	Construct - 1.5x15m Box culvert @ Sta.A2+225 with concrete inlet and outlet	28Cu m	$5,460	29-Jun-14	23-Jul-14
NHT3550	NHT-4.07.c	Construct -LHS of 1.0x1.0m Box box culvert @ Sta.A3+636 with concrete outlet	25Cu m	$4,875	09-Mar-14	27-Mar-14
NHT3600	NHT-4.07.c	Construct -RHS of 1.0x1.0m Box box culvert @ Sta.A3+636 with inlet	27Cu m	$5,265	16-Apr-14	04-May-14
NHT4723	NHT-4.07.c	Concrete Class B300	3446Cu m	$671,970	18-Nov-14	16-Dec-14
	Subtotal		**3650**	**$711,750**	**09-Mar-14**	**16-Dec-14**
	Supply and install where needed High Tensile Steel Bar					
NHT2560	NHT-4.07.d	Construct R.Concrete Retaining wall from Sta. A0+129to A0+200 RHS (71 LM)	10Tonne	$13,000	02-Mar-14	18-Mar-14
NHT2570	NHT-4.07.d	Construct R.Concrete Retaining wall from Sta. A0+290 to A0+355 RHS (65 LM)	15Tonne	$19,500	15-Mar-14	29-Mar-14
NHT2580	NHT-4.07.d	Construct R.Concrete Retaining wall from Sta. A0+479 to A0+625 LHS (146 LM)	28Tonne	$36,400	26-Mar-14	26-Apr-14
NHT2590	NHT-4.07.d	Construct R.Concrete Retaining wall from Sta. A0+625 to A0+770 LHS (145 LM)	29Tonne	$37,700	10-Apr-14	12-May-14
NHT2600	NHT-4.07.d	Construct R.Concrete Retaining wall from Sta. A0+570 to A0+590 RHS (20 LM)	4Tonne	$5,200	10-Mar-14	15-Mar-14
NHT2610	NHT-4.07.d	Construct R.Concrete Retaining wall from Sta. A0+800 to A0+840 LHS (40 LM)	8Tonne	$10,400	16-Mar-14	24-Mar-14
NHT2620	NHT-4.07.d	Construct R.Concrete Retaining wall from Sta. A0+880 to A0+990 LHS (110 LM)	22Tonne	$28,600	25-Mar-14	16-Apr-14
NHT2630	NHT-4.07.d	Construct R.Concrete Retaining wall from Sta. A0+918 to A0+990 RHS (72 LM)	16Tonne	$20,800	12-Apr-14	28-Apr-14
NHT2640	NHT-4.07.d	Construct R.Concrete Retaining wall from Sta. A1+422 to A1+300 LHS (122 LM)	27Tonne	$35,100	23-Apr-14	19-May-14
NHT2650	NHT-4.07.d	Construct 2.0x2.0x19 M box culvert @Sta. A0+590	5Tonne	$6,500	15-Mar-14	10-Apr-14
NHT2660	NHT-4.07.d	Construct 1.5x1.5x12 M box culvert @Sta. A0+953	3Tonne	$3,900	10-Apr-14	30-Apr-14
NHT2670	NHT-4.07.d	Construct1.5x1.5x15 M box culvert @Sta. A1+356	3Tonne	$3,900	23-Apr-14	14-May-14
NHT2960	NHT-4.07.d	Construct - 1.5x15m Box culvert @ Sta.A2+225 with concrete inlet and outlet	3Tonne	$3,900	29-Jun-14	23-Jul-14
NHT3290	NHT-4.07.d	Curbstone ,concrete side walks, ramps including 15 cm base course under side walk	2Tonne	$2,600	28-Dec-14	10-Jan-15
NHT3550	NHT-4.07.d	Construct -LHS of 1.0x1.0m Box box culvert @ Sta.A3+636 with concrete outlet	2Tonne	$2,600	09-Mar-14	27-Mar-14
NHT3560	NHT-4.07.d	Construct -LHS Dia.1000 mm of double pipe culvert @ Sta.A5+469 with concrete outlet	1Tonne	$1,300	13-Mar-14	30-Mar-14
NHT3600	NHT-4.07.d	Construct -RHS of 1.0x1.0m Box box culvert @ Sta.A3+636 with inlet	3Tonne	$3,900	16-Apr-14	04-May-14
NHT3688	NHT-4.07.d	Construct - Concrete channel from Sta.3+360 to sta. 3+850 RHS (490 LM)	20Tonne	$26,000	24-May-14	04-Jun-14

Resource Control Report

Resource ID Name

Activi ID	Resource ID	Activity Name	Budgeted Units	Budgeted Cost	Start	Finish
NHT3720	NHT-4.07.d	Construct -RHS Dia.1000 mm of double pipe culvert @ Sta.A5+469 with inlet	1Tonne	$1,300	11-May-14	25-May-14
NHT3880	NHT-4.07.d	Construct -RHS Dia.800 mm of precast pipe culvert @ Sta.A6+198 with outlet	1Tonne	$1,300	28-May-14	11-Jun-14
NHT4000	NHT-4.07.d	Reinforced concrete side walks, ramps and stairs included15 cm base course under side walk	9Tonne	$11,700	25-Aug-14	03-Sep-14
NHT4160	NHT-4.07.d	Reinforced concrete side walks, ramps and stairs included15 cm base course under side walk	9Tonne	$11,700	04-Oct-14	20-Oct-14
NHT4260	NHT-4.07.d	Reinforced concrete side walks, ramps and stairs including 15 cm base course under side walk	10Tonne	$13,000	02-Nov-14	11-Nov-14
NHT4360	NHT-4.07.d	Reinforced concrete side walks, ramps and stairs including 15 cm base course under side walk	7Tonne	$9,100	30-Nov-14	10-Dec-14
NHT4620	NHT-4.07.d	Reinforced concrete side walks, ramps and stairs included 15 cm base course under side walk	8Tonne	$10,400	21-Jan-15	03-Feb-15
NHT4700	NHT-4.07.d	Reinforced concrete side walks, ramps and stairs included 15 cm base course under side walk	12Tonne	$15,600	22-Mar-15	30-Mar-15
NHT4723	NHT-4.07.d	Concrete Class B300	128Tonne	$166,400	18-Nov-14	16-Dec-14
NHT4900	NHT-4.07.d	Construct concrete ditch	7Tonne	$9,100	31-Mar-15	21-Apr-15
	Subtotal		**393**	**$510,900**	**02-Mar-14**	**21-Apr-15**
		Supply and install precast concrete curbstone as specified. Work includes excavation, compaction				
NHT3240	NHT-4.12.a	Curbstone ,concrete side walks, ramps including 15 cm base course under side walk	61LM	$1,208	11-Nov-14	24-Nov-14
NHT3290	NHT-4.12.a	Curbstone ,concrete side walks, ramps including 15 cm base course under side walk	101LM	$2,000	28-Dec-14	10-Jan-15
NHT3990	NHT-4.12.a	Construct curbstone after Saw cut the edge of asphalt binder course	838LM	$16,592	21-Aug-14	28-Aug-14
NHT4150	NHT-4.12.a	Construct curbstone after Saw cut the edge of asphalt binder course	838LM	$16,592	02-Oct-14	18-Oct-14
NHT4250	NHT-4.12.a	Construct curbstone after Saw cut the edge of asphalt binder course	838LM	$16,592	01-Nov-14	08-Nov-14
NHT4350	NHT-4.12.a	Construct curbstone after Saw cut the edge of asphalt binder course	838LM	$16,592	29-Nov-14	07-Dec-14
NHT4610	NHT-4.12.a	Construct curbstone after Saw cut the edge of asphalt binder course	993LM	$19,661	19-Jan-15	28-Jan-15
NHT4690	NHT-4.12.a	construct curbstone after Saw cut the edge of asphalt binder course	993LM	$19,661	19-Mar-15	29-Mar-15
	Subtotal		**5500**	**$108,900**	**21-Aug-14**	**29-Mar-15**
		Supply and install precast concrete curbstone for Medians alternatively black and white				
NHT4812	NHT-4.12.b	curbstone Median	200LM	$4,180	28-Jan-15	11-Feb-15
	Subtotal		**200**	**$4,180**	**28-Jan-15**	**11-Feb-15**
		Supply and install Precast concrete edge beam as specified (10x20cm).				
NHT4790	NHT-4.12.c	curbstone edg beam	200LM	$3,740	21-Jan-15	04-Feb-15
	Subtotal		**200**	**$3,740**	**21-Jan-15**	**04-Feb-15**
		Construction of Stone Wall as per contract's drawings. Contractor shall provide adequate stone size				
NHT2804	NHT-4.19.a	Construct stone walls from sta.A1+018 to A1+340	410Cu m	$24,600	07-Jul-14	11-Aug-14
NHT3700	NHT-4.19.a	Construct - stone wall l from Sta.A3+360 to sta. A3+370 RHS	15Cu m	$900	07-Jun-14	12-Jun-14
NHT4810	NHT-4.19.a	Stone Wall	375Cu m	$22,500	21-Jan-15	18-Feb-15
	Subtotal		**800**	**$48,000**	**07-Jun-14**	**18-Feb-15**
	Subtotal		**17456**	**$3,028,290**	**02-Mar-14**	**21-Apr-15**

Resource Control Report

Resource ID Name

Activi ID	Resource ID	Activity Name	Budgeted Units	Budgeted Cost	Start	Finish
	Item 5 Part II Road Furnishing Miscellaneous Work					
	Circular sign face 600 mm dia.					
NHT4920	NHT-5.01.a	Guard rail,traffic signs , and Road furnishing	30Each	$4,500	01-Apr-15	19-Apr-15
	Subtotal		**30**	**$4,500**	**01-Apr-15**	**19-Apr-15**
	Triangular sign face 600 mm deep					
NHT4920	NHT-5.01.b	Guard rail,traffic signs , and Road furnishing	60Each	$9,000	01-Apr-15	19-Apr-15
	Subtotal		**60**	**$9,000**	**01-Apr-15**	**19-Apr-15**
	Octagonal sign face 600 mm deep					
NHT4920	NHT-5.01.c	Guard rail,traffic signs , and Road furnishing	80Each	$12,000	01-Apr-15	19-Apr-15
	Subtotal		**80**	**$12,000**	**01-Apr-15**	**19-Apr-15**
	Square Sign face 600mm deep .					
NHT4920	NHT-5.01.d	Guard rail,traffic signs , and Road furnishing	8Each	$1,360	01-Apr-15	19-Apr-15
	Subtotal		**8**	**$1,360**	**01-Apr-15**	**19-Apr-15**
	Directional Sign (Black/White) with one board (single face)					
NHT4920	NHT-5.01. d	Guard rail,traffic signs , and Road furnishing	25Each	$9,000	01-Apr-15	19-Apr-15
	Subtotal		**25**	**$9,000**	**01-Apr-15**	**19-Apr-15**
	Large directional sign (Green/ White) Installed on triple 4" posts					
NHT4920	NHT-5.01.e	Guard rail,traffic signs , and Road furnishing	18Each	$7,920	01-Apr-15	19-Apr-15
	Subtotal		**18**	**$7,920**	**01-Apr-15**	**19-Apr-15**
	Rectangular chevron signs Type (RS-1)					
NHT4920	NHT-5.01.f	Guard rail,traffic signs , and Road furnishing	21Each	$3,150	01-Apr-15	19-Apr-15
	Subtotal		**21**	**$3,150**	**01-Apr-15**	**19-Apr-15**
	Rectangular chevron signs Type (RS-2)					
NHT4920	NHT-5.01.g	Guard rail,traffic signs , and Road furnishing	118Each	$20,060	01-Apr-15	19-Apr-15
	Subtotal		**118**	**$20,060**	**01-Apr-15**	**19-Apr-15**
	Rectangular chevron signs Type (RS-3)					
NHT4920	NHT-5.01.h	Guard rail,traffic signs , and Road furnishing	3Each	$750	01-Apr-15	19-Apr-15
	Subtotal		**3**	**$750**	**01-Apr-15**	**19-Apr-15**
	Circular sign face 600 mm dia.					
NHT4920	NHT-5.02.a	Guard rail,traffic signs , and Road furnishing	4Each	$520	01-Apr-15	19-Apr-15
	Subtotal		**4**	**$520**	**01-Apr-15**	**19-Apr-15**
	Triangular sign face 600 mm deep					
NHT4920	NHT-5.02.b	Guard rail,traffic signs , and Road furnishing	4Each	$520	01-Apr-15	19-Apr-15

Resource Control Report

Activi ID	Resource ID	Activity Name	Budgeted Units	Budgeted Cost	Start	Finish
	Subtotal		**4**	**$520**	**01-Apr-15**	**19-Apr-15**
	Octagonal sign face 600 mm deep					
NHT4920	NHT-5.02.c	Guard rail,traffic signs , and Road furnishing	4Each	$520	01-Apr-15	19-Apr-15
	Subtotal		**4**	**$520**	**01-Apr-15**	**19-Apr-15**
	Road Marking-Continuous and/or intermittent Thermoplastic paint					
NHT4920	NHT-5.03.a	Guard rail,traffic signs , and Road furnishing	4000LM	$98,000	01-Apr-15	19-Apr-15
	Subtotal		**4000**	**$98,000**	**01-Apr-15**	**19-Apr-15**
	Road Marking-Supply and install edge line single cat eyes					
NHT4920	NHT-5.03.b	Guard rail,traffic signs , and Road furnishing	1000Each	$9,000	01-Apr-15	19-Apr-15
	Subtotal		**1000**	**$9,000**	**01-Apr-15**	**19-Apr-15**
	Road Marking-Supply and install edge line double cat eyes a					
NHT4920	NHT-5.03.c	Guard rail,traffic signs , and Road furnishing	1300Each	$13,000	01-Apr-15	19-Apr-15
	Subtotal		**1300**	**$13,000**	**01-Apr-15**	**19-Apr-15**
	Grouted rip rap protection					
NHT4910	NHT-5.04.a	Grouted rip rap protection	400Each	$18,000	31-Mar-15	18-Apr-15
	Subtotal		**400**	**$18,000**	**31-Mar-15**	**18-Apr-15**
	Supply and install galvanized steel guard rail					
NHT4920	NHT-5.05.a	Guard rail,traffic signs , and Road furnishing	1600LM	$104,000	01-Apr-15	19-Apr-15
	Subtotal		**1600**	**$104,000**	**01-Apr-15**	**19-Apr-15**
	Supply and install galvanized steel Handrail for pedestrians					
NHT4920	NHT-5.05.b	Guard rail,traffic signs , and Road furnishing	500LM	$79,000	01-Apr-15	19-Apr-15
	Subtotal		**500**	**$79,000**	**01-Apr-15**	**19-Apr-15**
	Street Lighting- double armH=12m					
NHT4890	NHT-5.08.b	Street Lighting	75LM	$255,000	31-Mar-15	19-Apr-15
	Subtotal		**75**	**$255,000**	**31-Mar-15**	**19-Apr-15**
	Subtotal		**9250**	**$645,300**	**31-Mar-15**	**19-Apr-15**
Subtotal			**597006**	**$7,323,490**	**23-Feb-14**	**21-Apr-15**
Item 03 Part III	**Mobilization / Demobilization (4%+1%)**					
	Mobilization					
NHT0480	NHT-03.1	Mobilization Total Cost (4.0%)	1Mob	$442,472	10-Nov-13	04-Dec-13
	Subtotal		**1**	**$442,472**	**10-Nov-13**	**04-Dec-13**

Resource Control Report

Resource ID Name						
Activi ID	Resource ID	Activity Name	Budgeted Units	Budgeted Cost	Start	Finish
	Demobilization					
NHT4975	NHT-03.2	Start Demobilization	1Demob	$110,617	28-Apr-15	28-Apr-15
	Subtotal		**1**	**$110,617**	**28-Apr-15**	**28-Apr-15**
Subtotal			**2**	**$553,089**	**10-Nov-13**	**28-Apr-15**
Subtotal			**643612**	**$11,614,885**	**10-Nov-13**	**28-Apr-15**
Subtotal			**643612**	**$11,614,885**	**10-Nov-13**	**28-Apr-15**
Total			**643612**	**$11,614,885**	**10-Nov-13**	**28-Apr-15**

9 Schedule Review/ Approval Sheet:

APCO ArCon
CONSTRUCTION AND SERVICES

WATER PROJECTS

AID-294-TO-13-00015

Nahaleen Main Pipeline Project (NHT)

Schedule Review/ Approval

In accordance with specification section 01311, item 1.5-A .

This schedule has been reviewed and approved by the followings:

- **Task order manger**

  Eng. Naim Fannoon

- **Sub Contractor manger**

  Eng. Abdulqader Hanayshah

WATER PROJECTS

AID-294-TO-13-00015

NAHALEEN MAIN PIPELINE PROJECT

Original CPM Construction Schedule

(Part Two)

INFRASTRUCTURE NEEDS PROGRAM

(INP-II) IQC WEST BANK / GAZA

March 5, 2014

APCO ArCon
CONSTRUCTION AND SERVICES

10 Construction Time Schedule (Construction Program)

APCO/ArCon CONSTRUCTION AND SERVICES

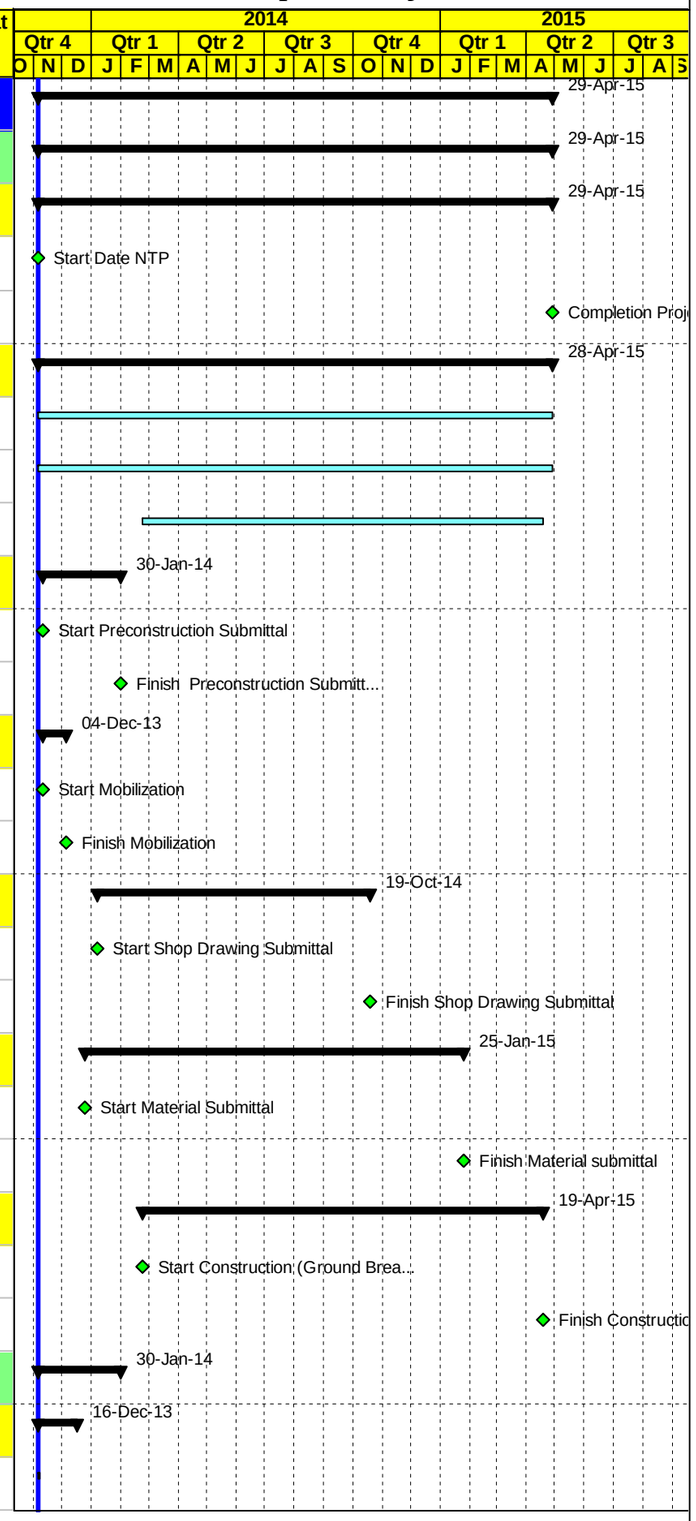
Construction Program

(Baseline)

TO# 15

Nahaleen Main Pipeline Project

Activity ID	Activity Name	Crew Name	Original Duration	Start	Finish	Total Float
Nahaleen Main Pipeline Project			539d	06-Nov-13	29-Apr-15	0d
Milestones			539d	06-Nov-13	29-Apr-15	0d
General Milestones			415d	06-Nov-13	29-Apr-15	0d
NHT0000	Start Date NTP		0d	06-Nov-13*		0d
NHT0010	Completion Project		0d		29-Apr-15*	0d
Task order Duration			539d	06-Nov-13	28-Apr-15	0d
NHT0020	Project Duration (Calendar Days)		539d	06-Nov-13	28-Apr-15	0d
NHT0030	Project Duration (Working Days)		415d	06-Nov-13	28-Apr-15	0d
NHT0040	Construction Duration (Working Days)		326d	23-Feb-14	19-Apr-15	0d
Pre Construction Milestones			59d	10-Nov-13	30-Jan-14	0d
NHT0050	Start Preconstruction Submittal		0d	10-Nov-13		0d
NHT0060	Finish Preconstruction Submittal		0d		30-Jan-14	0d
Mobilization Milestones			21d	10-Nov-13	04-Dec-13	43d
NHT0070	Start Mobilization		0d	10-Nov-13		53d
NHT0080	Finish Mobilization		0d		04-Dec-13	43d
Shop Drawing Milestones			221d	06-Jan-14	19-Oct-14	150d
NHT0090	Start Shop Drawing Submittal		0d	06-Jan-14		0d
NHT0100	Finish Shop Drawing Submittal		0d		19-Oct-14	150d
Material Milestones			301d	24-Dec-13	25-Jan-15	77d
NHT0110	Start Material Submittal		0d	24-Dec-13		14d
NHT0120	Finish Material submittal		0d		25-Jan-15	77d
Construction Milestones			326d	23-Feb-14	19-Apr-15	0d
NHT0130	Start Construction (Ground Breaking)		0d	23-Feb-14		0d
NHT0140	Finish Construction Phase		0d		19-Apr-15	0d
Pre Construction Phase			86d	06-Nov-13	30-Jan-14	24d
Conformed Drawings and Coordination			41d	06-Nov-13	16-Dec-13	69d
NHT0145	Final for Construction Drawing (Conformed)		1d	06-Nov-13	06-Nov-13	2d



Level Of Effort | Actual Work | Early Bar | Critical Bar | Milestone | Summary

Date	Revision	Checked	Approved
05-Mar-14			

APCO/ArCon CONSTRUCTION AND SERVICES

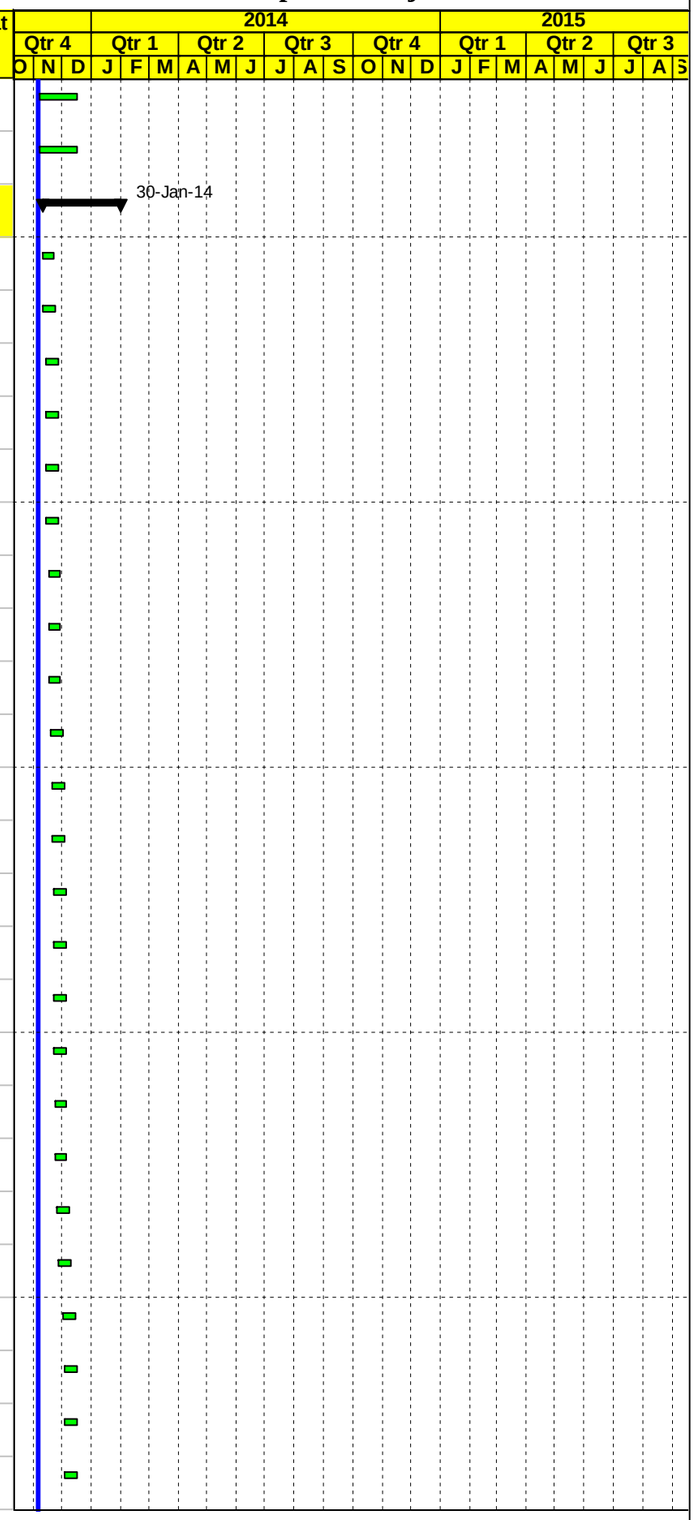
Construction Program

(Baseline)

TO# 15

Nahaleen Main Pipeline Project

Activity ID	Activity Name	Crew Name	Original Duration	Start	Finish	Total Float
NHT0150	Coordination with Israeli authorities for approval and permit area C		40d	07-Nov-13	16-Dec-13	51d
NHT0155	Coordination with local Authorities before Construction		40d	07-Nov-13	16-Dec-13	69d
Pre Construction Submittals			59d	10-Nov-13	30-Jan-14	11d
NHT0160	Schedule for Pre Construction Submittals & Mobilization		10d	10-Nov-13	21-Nov-13	8d
NHT0170	Bank Guarantee Certificates		10d	10-Nov-13	24-Nov-13	49d
NHT0180	Testing Lab		10d	14-Nov-13	27-Nov-13	45d
NHT0190	Field Offices Location & Layout		10d	14-Nov-13	27-Nov-13	44d
NHT0200	Field Offices Furniture & Equipment Plan		10d	14-Nov-13	27-Nov-13	44d
NHT0210	Scheduling Qualification Submittals		10d	14-Nov-13	27-Nov-13	45d
NHT0220	Key Personnel Plan		10d	17-Nov-13	28-Nov-13	44d
NHT0230	Insurances		10d	17-Nov-13	28-Nov-13	44d
NHT0240	Submittals Schedule		10d	17-Nov-13	28-Nov-13	44d
NHT0250	Subcontractors' profile		10d	18-Nov-13	01-Dec-13	43d
NHT0260	Coordination with local Authorities Plan including list of permits & and licenses		10d	20-Nov-13	03-Dec-13	41d
NHT0265	Temporary and Permanent Project Sign Plan		10d	20-Nov-13	03-Dec-13	44d
NHT0270	QCP-Quality Control Program		10d	21-Nov-13*	04-Dec-13	9d
NHT0280	Safety Plan		10d	21-Nov-13*	04-Dec-13	1d
NHT0290	60-Day Plan of Operation		10d	21-Nov-13	04-Dec-13	1d
NHT0300	Project Overview Bar Chart		10d	21-Nov-13	04-Dec-13	9d
NHT0320	Dilapidation Survey		10d	24-Nov-13	05-Dec-13	39d
NHT0330	Risk Management Plan		10d	24-Nov-13	05-Dec-13	39d
NHT0340	Existing Survey Plan		10d	25-Nov-13	08-Dec-13	49d
NHT0350	USAID Branding Plan		10d	26-Nov-13	09-Dec-13	37d
NHT0360	Material Staging ,Storage and dumping Areas Plan		10d	02-Dec-13	15-Dec-13	33d
NHT0370	Method Statement including asphalt disposal,pipeline install,formworks,curing,storm sys.,&R. mark		10d	03-Dec-13	16-Dec-13	32d
NHT0380	Environmental Mitigation Plan		10d	03-Dec-13*	16-Dec-13	1d
NHT0390	CPM-Construction Schedule and S-Curve		10d	03-Dec-13*	16-Dec-13	1d



Level Of Effort | Actual Work | Early Bar | Critical Bar | Milestone | Summary

Date	Revision	Checked	Approved
05-Mar-14			

APCO/ArCon CONSTRUCTION AND SERVICES

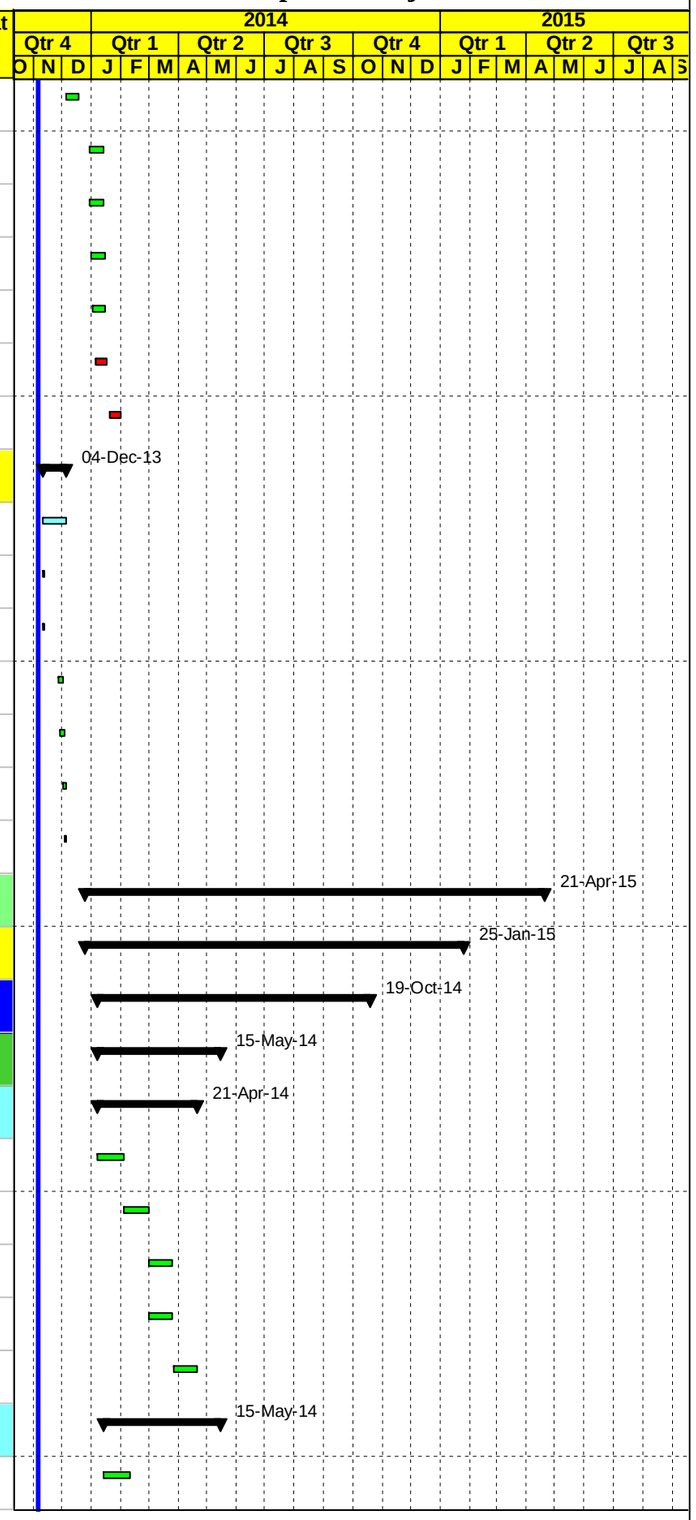
Construction Program

(Baseline)

TO# 15

Nahaleen Main Pipeline Project

Activity ID	Activity Name	Crew Name	Original Duration	Start	Finish	Total Float
NHT0400	Traffic Control Plan		10d	05-Dec-13	18-Dec-13	30d
NHT0410	Trench safety plan		10d	29-Dec-13	12-Jan-14	14d
NHT0420	Public relation plan		10d	30-Dec-13	13-Jan-14	13d
NHT0430	Welding procedure		10d	31-Dec-13	14-Jan-14	12d
NHT0440	Third party testing lab		10d	02-Jan-14	15-Jan-14	11d
NHT0450	Welder Qualification procedure		10d	05-Jan-14	16-Jan-14	0d
NHT0455	R.T. testing agency qualifications		10d	19-Jan-14	30-Jan-14	0d
Mobilization			21d	10-Nov-13	04-Dec-13	43d
NHT0480	Mobilization Total Cost (4.0%)		21d	10-Nov-13	04-Dec-13	43d
NHT0500	Site Hand Over		1d	11-Nov-13	11-Nov-13	53d
NHT0510	Checking With CMC Existing-Bench Marks, Survey Control Points		2d	11-Nov-13	12-Nov-13	53d
NHT0520	Supply and install Office Furniture's and Supplies		4d	27-Nov-13	02-Dec-13	43d
NHT0530	Supply and install Office IT Equipments & Applience		4d	28-Nov-13	03-Dec-13	43d
NHT0540	Start Preparation Construction Submittals (Survey plan , Shop Drawings & Materials)		3d	01-Dec-13	04-Dec-13	43d
NHT0550	Install Temporary Project Sign		1d	03-Dec-13	04-Dec-13	44d
Construction Phase			483d	24-Dec-13	21-Apr-15	8d
Construction Submittals			301d	24-Dec-13	25-Jan-15	77d
Shop Drawing Submittals			221d	06-Jan-14	19-Oct-14	127d
Plan Profile and Cross Sections			104d	06-Jan-14	15-May-14	243d
Plan Profile and Cross Sections for Group One			84d	06-Jan-14	21-Apr-14	135d
NHT0590	SEG.A From Sta.0+000 Ato Sta.1+440		21d	06-Jan-14	03-Feb-14	16d
NHT0600	SEG.A From Sta.-A1+440 to A2+190		21d	04-Feb-14	01-Mar-14	61d
NHT0610	SEG.A From Sta. 2+190 to Sta.A3+320		21d	02-Mar-14	26-Mar-14	66d
NHT0620	Seg.C From sta.C0+000 to C0+330		21d	02-Mar-14	26-Mar-14	81d
NHT0630	Design and shop drawing for SEG. E From Sta. E0+000 to Sta.E1+276		21d	27-Mar-14	21-Apr-14	135d
Plan Profile and Cross Sections for Group Two			100d	13-Jan-14	15-May-14	243d
NHT0650	SEG.A From Sta.A3+320 to Sta.A5+800		21d	13-Jan-14	09-Feb-14	0d



Level Of Effort | Actual Work | Early Bar | Critical Bar | Milestone | Summary

Date	Revision	Checked	Approved
05-Mar-14			

APCO/ArCon CONSTRUCTION AND SERVICES

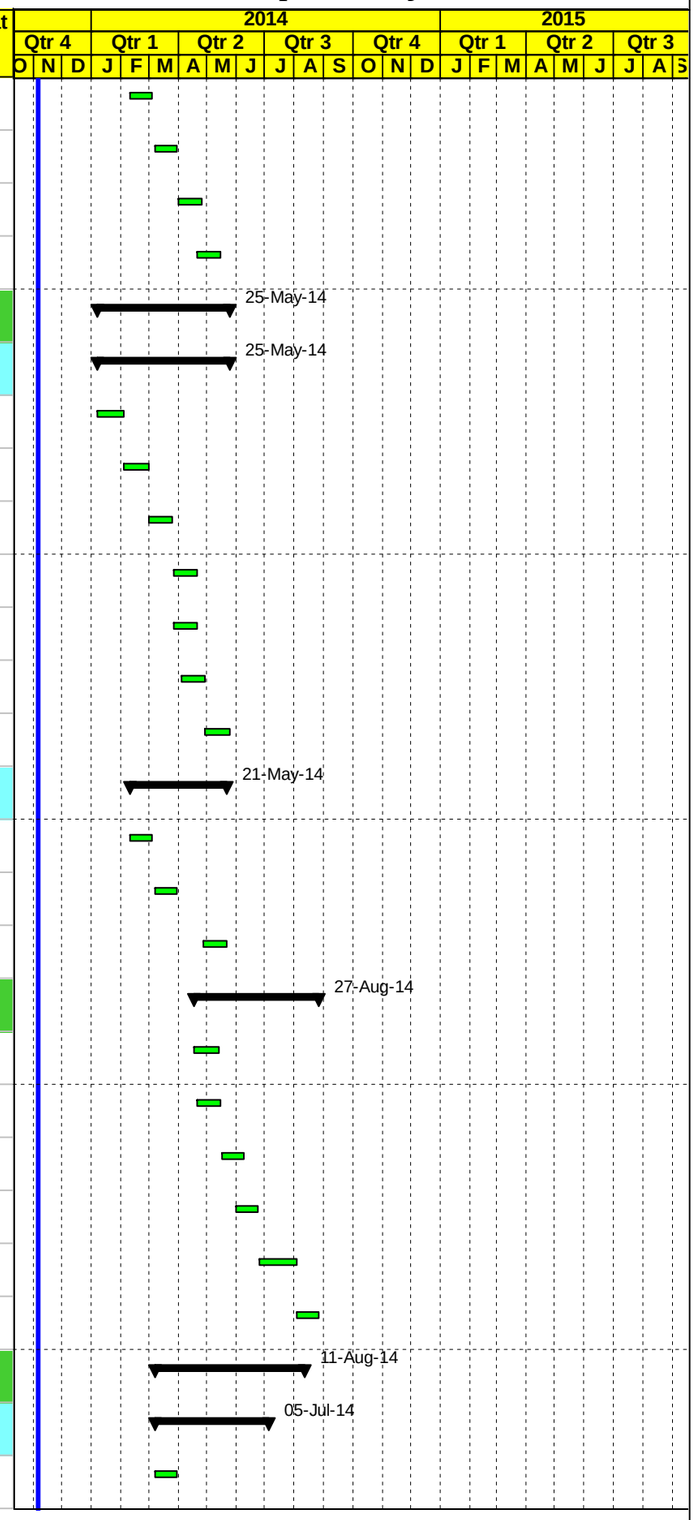
Construction Program

(Baseline)

TO# 15

Nahaleen Main Pipeline Project

Activity ID	Activity Name	Crew Name	Original Duration	Start	Finish	Total Float
NHT0660	SEG.A From Sta.A5+800 to Sta. 7+460		21d	10-Feb-14	05-Mar-14	51d
NHT0670	SEG.A From Sta. 7+460 to Sta. A8+203		21d	08-Mar-14	31-Mar-14	90d
NHT0680	SEG.B From Sta. B0+000 to Sta. B0+985		21d	01-Apr-14	26-Apr-14	90d
NHT0690	Access Roads		21d	21-Apr-14	15-May-14	243d
Waterline			112d	06-Jan-14	25-May-14	87d
Waterline for Group One			112d	06-Jan-14	25-May-14	66d
NHT0700	300 mm Dia. Waterline SEG. D From Sta.D0+518 to Sta.D0+000		21d	06-Jan-14	03-Feb-14	50d
NHT0705	300 mm & 75 mm Dia. Waterline Seg. A From Sta.A0+000 to Sta.A1+440		21d	04-Feb-14	01-Mar-14	16d
NHT0715	300 mm, 200mm, 100 mm & 75 mm Dia. Waterline Seg. A SEG.A From Sta.A2+190-A1+440		21d	02-Mar-14	26-Mar-14	61d
NHT0720	300 mm, 75 mm & 50 mm Dia. Waterline Seg. A From Sta.A3+320 to Sta.A2+190		21d	27-Mar-14	21-Apr-14	66d
NHT0725	200 mm & 100 mm Dia. waterline SEG.C from sta. 0+00 to st. C0+330		21d	27-Mar-14	21-Apr-14	81d
NHT0730	100 mm Dia. Waterline for Hussan distribution pipe		21d	05-Apr-14	29-Apr-14	66d
NHT0735	150 mm Dia. Waterline for Battir distribution pipe		21d	30-Apr-14	25-May-14	66d
Waterline for Group Two			84d	10-Feb-14	21-May-14	90d
NHT0740	250 mm & 50 mm Dia. Waterline Seg. A From Sta.A3+320 to Sta.A5+800		21d	10-Feb-14	05-Mar-14	39d
NHT0745	200 mm, 150 mm & 100 mm Dia. Waterline Seg. A From Sta.A5+800 to Sta. 7+460		21d	08-Mar-14	31-Mar-14	51d
NHT0750	100 mm Dia. for Main and Dist. Waterline SEG.B From Sta. B0+000 to Sta. B0+985		21d	27-Apr-14	21-May-14	90d
House connection			99d	17-Apr-14	27-Aug-14	61d
NHT0755	Water meters and house connection Segment A from St. 1+450 to St. 2+300		21d	17-Apr-14	13-May-14	61d
NHT0760	Water meters and house connection Segment A from St. 5+400 to St. 8+200		21d	21-Apr-14	15-May-14	61d
NHT0765	Water meters and house connection Segment C		21d	17-May-14	09-Jun-14	61d
NHT0770	Water meters and house connection Battir distribution		21d	01-Jun-14	24-Jun-14	61d
NHT0775	Water meters and house connection Segment B		21d	25-Jun-14	03-Aug-14	61d
NHT0780	Water meters and house connection Hussan distribution pipe		21d	03-Aug-14	27-Aug-14	61d
Valves			120d	08-Mar-14	11-Aug-14	139d
Civil Chambers			99d	08-Mar-14	05-Jul-14	139d
NHT0805	Typical details of AR/AV, wash out ,gate valve and butterfly valve chambers		21d	08-Mar-14	31-Mar-14	44d



Level Of Effort | Actual Work | Early Bar | Critical Bar | Milestone | Summary

Date	Revision	Checked	Approved
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APCO ArCon CONSTRUCTION AND SERVICES

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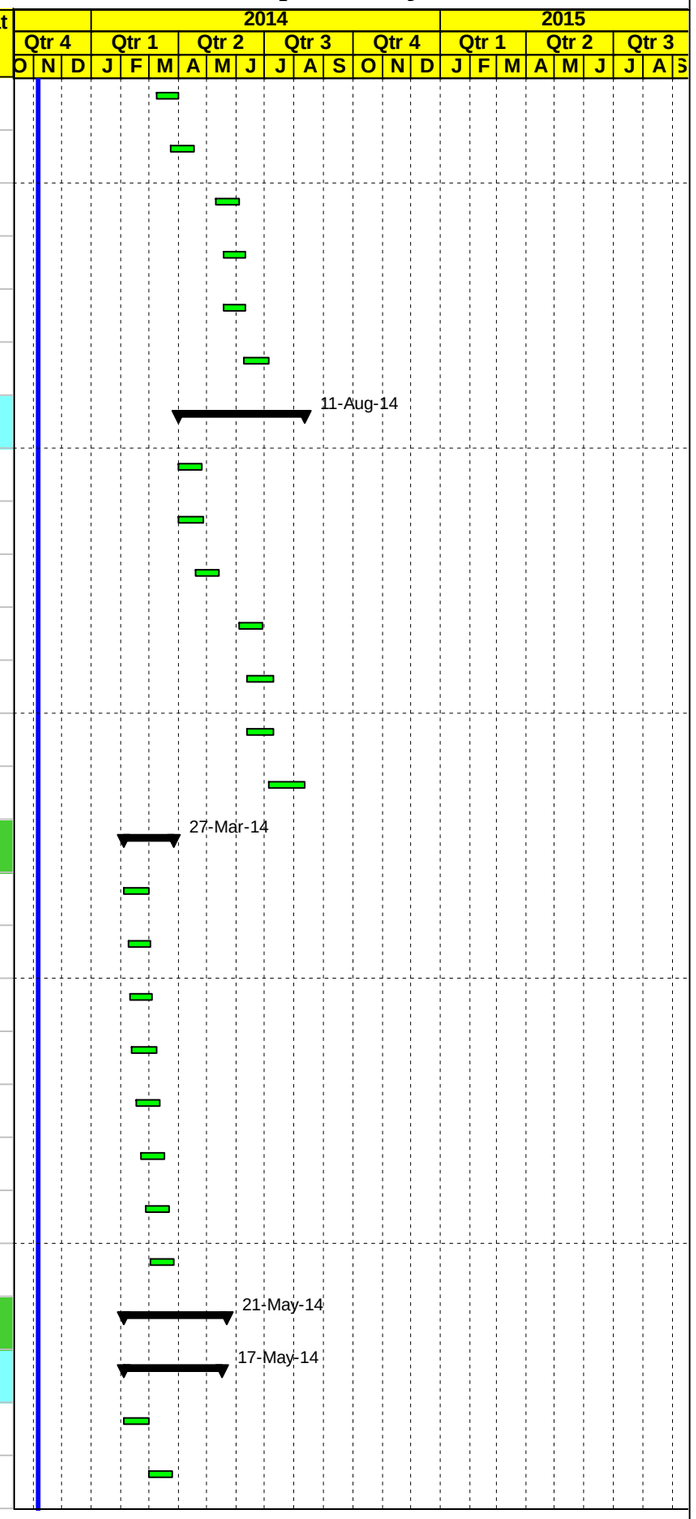
TO# 15

Nahaleen Main Pipeline Project

Activity ID	Activity Name	Crew Name	Original Duration	Start	Finish	Total Float
NHT0810	300 mm flow monitoring chamber @ sta. A0+660		21d	09-Mar-14	01-Apr-14	27d
NHT0815	Flow monitoring chamber @ sta. A5+725		21d	25-Mar-14	17-Apr-14	59d
NHT0820	Nahaleen connection chamber @ st. C0+320		21d	11-May-14	03-Jun-14	164d
NHT0825	Hussan Connection chamber @ Sta.A7+390		21d	19-May-14	11-Jun-14	88d
NHT0830	Battir Connection chamber @ Sta.A7+410		21d	19-May-14	11-Jun-14	89d
NHT0835	Wadi Fukin connection chamber @sta. B0+957		21d	09-Jun-14	05-Jul-14	106d
Mechanical			99d	01-Apr-14	11-Aug-14	139d
NHT0840	Typical details of AR/AV, wash out ,gate valve and butterfly valve chambers		21d	01-Apr-14	26-Apr-14	217d
NHT0845	300 mm flow monitoring chamber @ sta. A0+660		21d	02-Apr-14	27-Apr-14	216d
NHT0850	Flow monitoring chamber @ sta. A5+725		21d	19-Apr-14	14-May-14	202d
NHT0855	Nahaleen connection chamber @ st. C0+320		21d	04-Jun-14	29-Jun-14	164d
NHT0860	Hussan Connection chamber @ Sta.A7+390		21d	12-Jun-14	10-Jul-14	157d
NHT0865	Battir Connection chamber @ Sta.A7+410		21d	12-Jun-14	10-Jul-14	157d
NHT0868	Wadi Fukin connection chamber @sta. B0+957		21d	05-Jul-14	11-Aug-14	139d
Concrete walls			43d	04-Feb-14	27-Mar-14	42d
NHT0870	Retaining wall from Sta. A0+200 to A0+129 RHS (71 LM)		21d	04-Feb-14	01-Mar-14	21d
NHT0880	Retaining wall from Sta. A0+290 to A0+355 RHS (65 LM)		21d	08-Feb-14	03-Mar-14	21d
NHT0890	Retaining wall from Sta. A0+479 to A0+770 LHS (291 LM)		21d	10-Feb-14	05-Mar-14	21d
NHT0900	Retaining wall from Sta. A0+570 to A0+590 RHS (20 LM)		21d	12-Feb-14	09-Mar-14	21d
NHT0910	Retaining wall from Sta. A0+800 to A0+840 LHS (40 LM)		21d	17-Feb-14	13-Mar-14	22d
NHT0920	Retaining wall from Sta. A0+880 to A0+990 LHS (110 LM)		21d	22-Feb-14	18-Mar-14	26d
NHT0930	Retaining wall from Sta. A0+918 to A0+990 RHS (72 LM)		21d	26-Feb-14	23-Mar-14	37d
NHT0940	Retaining wall from Sta. A1+422 to A1+300 LHS (122 LM)		21d	03-Mar-14	27-Mar-14	42d
Pipe and Box Culverts			88d	04-Feb-14	21-May-14	130d
Pipe and Box Culverts for Group One			84d	04-Feb-14	17-May-14	72d
NHT0960	2.0x2.0x19 M box culvert @Sta. A0+590		21d	04-Feb-14	01-Mar-14	27d
NHT0970	1.5x1.5x12 M box culvert @Sta. A0+953		21d	02-Mar-14	26-Mar-14	27d



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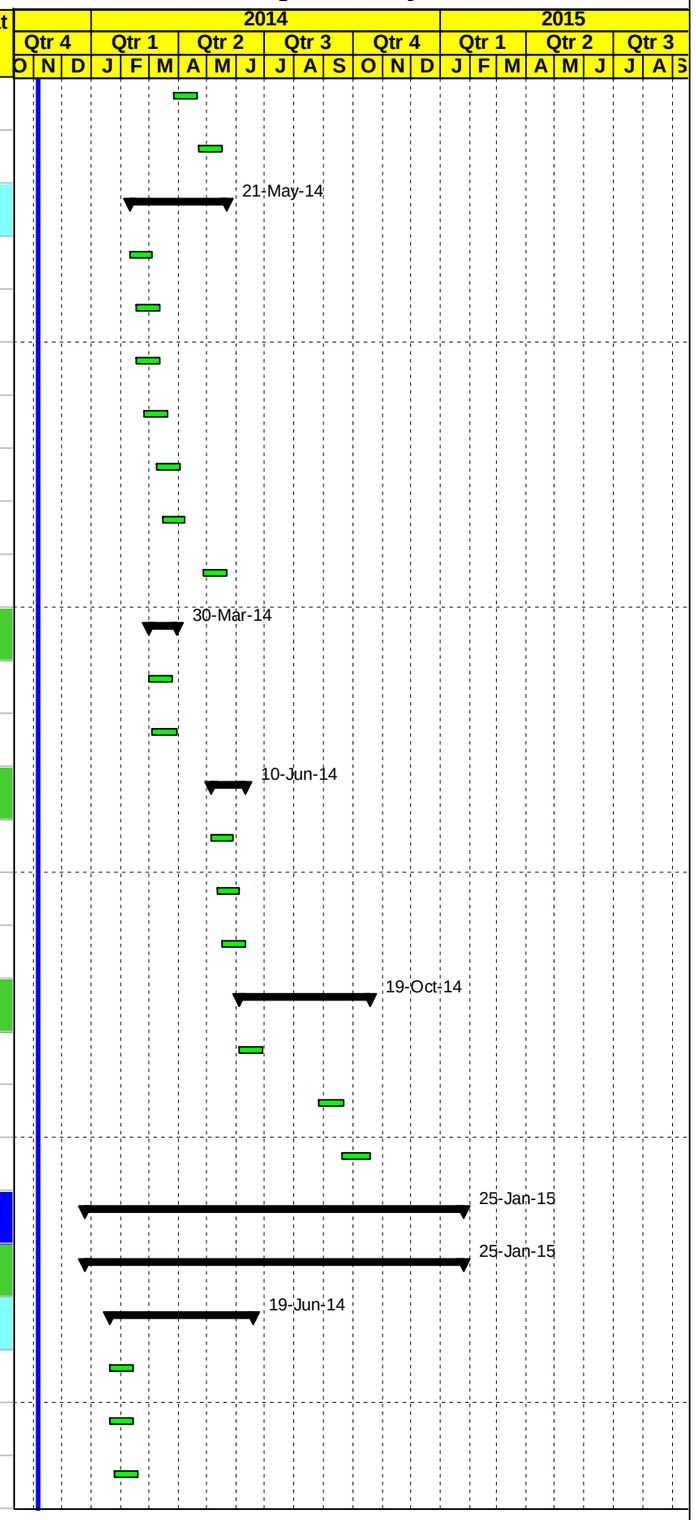
Nahaleen Main Pipeline Project

Activity ID	Activity Name	Crew Name	Original Duration	Start	Finish	Total Float
NHT0980	1.5x1.5x15 M box culvert @Sta. A1+356		21d	27-Mar-14	21-Apr-14	27d
NHT0990	1.5x15m Box box culvert @ Sta.A2+225		21d	22-Apr-14	17-May-14	72d
Pipe and Box Culverts for Group Two			84d	10-Feb-14	21-May-14	130d
NHT1000	1.0 x1.0m box culvert @ Sta.A3+636		21d	10-Feb-14	05-Mar-14	0d
NHT1015	Dia.1000 mm of double pipe culvert @ Sta.A5+469		21d	16-Feb-14	12-Mar-14	0d
NHT1010	Concrete channel from Sta.3+360 to sta. 3+850 RHS (490 LM)		21d	16-Feb-14	12-Mar-14	0d
NHT1030	Dia.800 mm of pipe culvert @ Sta.A6+198 with outlet		21d	24-Feb-14	20-Mar-14	80d
NHT1040	Storm concrete drainage system SEG.A From sta. A5+480 to A7+460 (1660 L.m)		21d	10-Mar-14	02-Apr-14	53d
NHT1050	600 mm Dia outfall for hussan @ st.A6+570 & A7+172		21d	16-Mar-14	08-Apr-14	141d
NHT1060	Storm concrete drainage system from sta. B0+000 to B0+985 (985 LM) & outfall for @ St.B0+537 & B0+714 (115 & 50 LM)		21d	27-Apr-14	21-May-14	130d
Stone Walls			25d	01-Mar-14	30-Mar-14	251d
NHT1070	stone wall from sta.A1+018 to A1+340		21d	01-Mar-14	25-Mar-14	255d
NHT1080	stone wall from Sta.A3+360 to sta. A3+370 RHS		21d	05-Mar-14	30-Mar-14	185d
Concrete curbstone and side walk			31d	06-May-14	10-Jun-14	176d
NHT1090	SEG.B From Sta. B0+000 to Sta. B0+985		21d	06-May-14	29-May-14	174d
NHT1100	SEG.E From Sta. E0+000 to Sta.E1+276		21d	12-May-14	04-Jun-14	181d
NHT1110	SEG.A From Sta.A5+800 to Sta. 7+460		21d	18-May-14	10-Jun-14	52d
Others			101d	04-Jun-14	19-Oct-14	127d
NHT1120	Street Lighting SEG.A from A5+800 TO 7+460 & B0+00 to B0+980		21d	04-Jun-14	29-Jun-14	153d
NHT1130	Concrete Ditches and Concrete protection		21d	27-Aug-14	21-Sep-14	146d
NHT1140	Road furnishing/Guard Rail		21d	20-Sep-14	19-Oct-14	127d
Material Submittals			301d	24-Dec-13	25-Jan-15	77d
Material Submittals including Manufacturers Qualifications , Shop Test, Product Data			301d	24-Dec-13	25-Jan-15	77d
Material Submittals Roads			126d	19-Jan-14	19-Jun-14	237d
NHT1180	Concrete Mix Design including cement type		21d	19-Jan-14	13-Feb-14	77d
NHT1190	Formwork material		21d	19-Jan-14	13-Feb-14	77d
NHT1200	Steel Reinforcement		21d	25-Jan-14	18-Feb-14	73d



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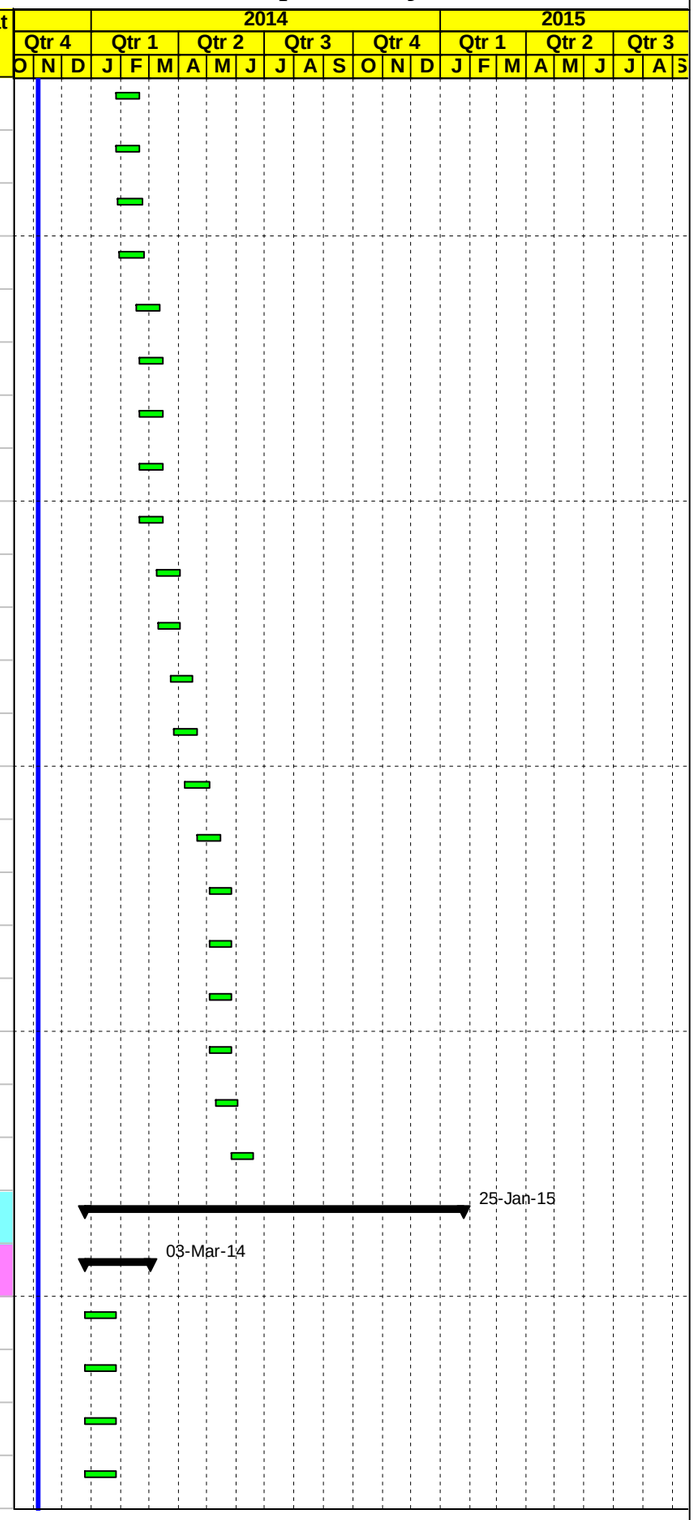
Nahaleen Main Pipeline Project

Activity ID	Activity Name	Crew Name	Original Duration	Start	Finish	Total Float
NHT1210	Precast Concrete Manholes and catch basin		21d	26-Jan-14	19-Feb-14	59d
NHT1220	Water proofing		21d	26-Jan-14	19-Feb-14	72d
NHT1230	Base Course Source		21d	28-Jan-14	22-Feb-14	75d
NHT1240	Concrete Pipes		21d	30-Jan-14	24-Feb-14	76d
NHT1250	Curbstone		21d	17-Feb-14	13-Mar-14	204d
NHT1260	Prime Coat		21d	19-Feb-14	16-Mar-14	202d
NHT1270	Tack Coat		21d	19-Feb-14	16-Mar-14	202d
NHT1280	Bituminous Binder Course-Mix Design		21d	19-Feb-14	16-Mar-14	202d
NHT1290	Bituminous Wearing Course-Mix Design		21d	19-Feb-14	16-Mar-14	202d
NHT1310	Concrete Repair		21d	10-Mar-14	02-Apr-14	37d
NHT1320	Concrete joint sealant material		21d	11-Mar-14	03-Apr-14	277d
NHT1323	Geocell		21d	24-Mar-14	16-Apr-14	290d
NHT1330	Street Lighting including poles		21d	27-Mar-14	21-Apr-14	216d
NHT1340	Interlocking Blocks		21d	08-Apr-14	04-May-14	277d
NHT1350	Galvanized steel Handrail		21d	21-Apr-14	15-May-14	244d
NHT1360	Cat eyes		21d	04-May-14	27-May-14	234d
NHT1370	Thermoplastic paint		21d	04-May-14	27-May-14	234d
NHT1380	Guard Rail		21d	04-May-14	27-May-14	234d
NHT1390	Traffic sign		21d	04-May-14	27-May-14	234d
NHT1400	Curbstone paint material		21d	10-May-14	02-Jun-14	229d
NHT1410	Lighting control		21d	27-May-14	19-Jun-14	166d
Material Submittals Pipelines including Hydraulic calculation and wiring diagrams, labeling schedule			301d	24-Dec-13	25-Jan-15	77d
Pipes			51d	24-Dec-13	03-Mar-14	52d
NHT1420	Steel pipeline 300 mm		21d	24-Dec-13	26-Jan-14	14d
NHT1430	Steel pipeline 200 mm		21d	24-Dec-13	26-Jan-14	14d
NHT1440	Steel pipeline 150 mm		21d	24-Dec-13	26-Jan-14	14d
NHT1450	Steel pipeline 100 mm		21d	24-Dec-13	26-Jan-14	14d



Level Of Effort | Actual Work | Early Bar | Critical Bar | Milestone | Summary

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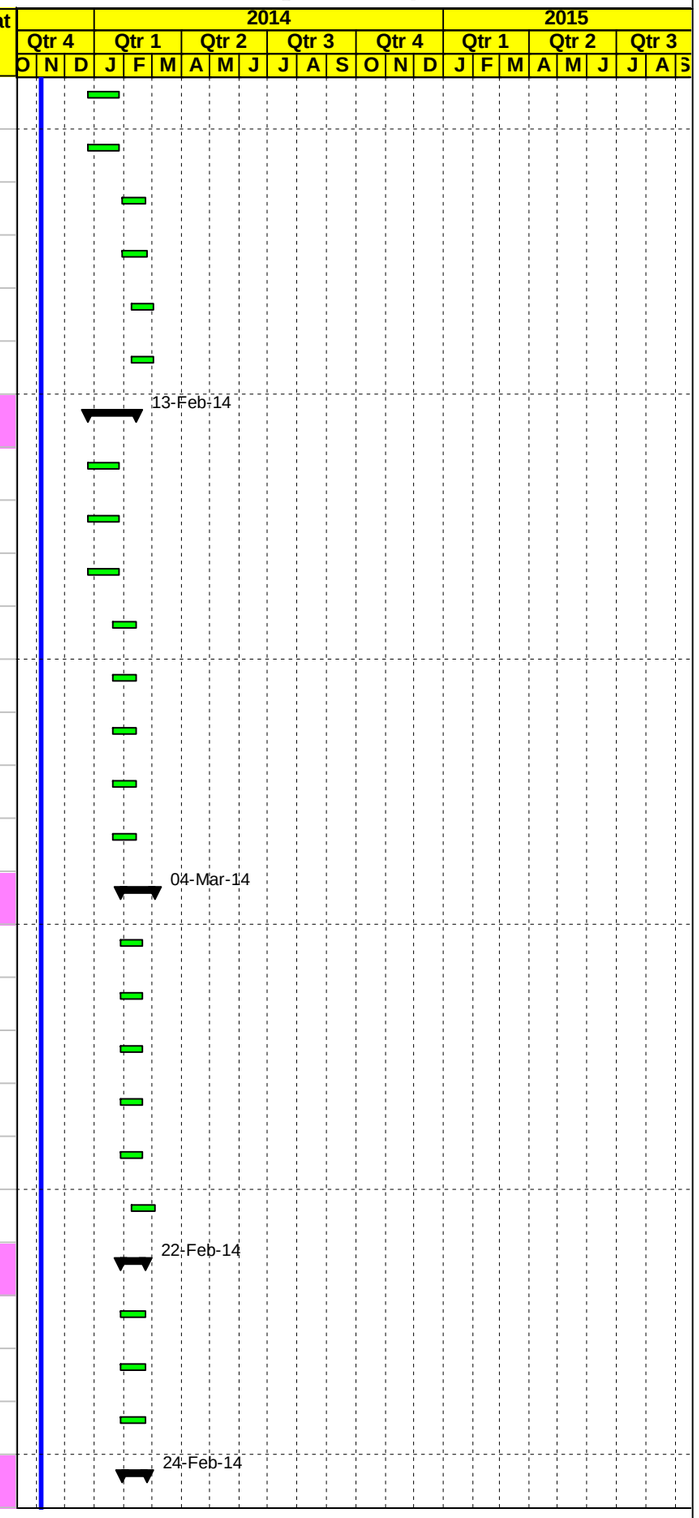
Construction Program

(Baseline)

TO# 15

Nahaleen Main Pipeline Project

Activity ID	Activity Name	Crew Name	Original Duration	Start	Finish	Total Float
NHT1460	Steel pipeline 75 mm		21d	24-Dec-13	26-Jan-14	14d
NHT1470	Steel pipeline 50 mm		21d	24-Dec-13	26-Jan-14	14d
NHT1480	Bedding material		21d	29-Jan-14	23-Feb-14	21d
NHT1490	Backfilling material		21d	30-Jan-14	24-Feb-14	58d
NHT1500	Shrinkable sheet		21d	08-Feb-14	03-Mar-14	14d
NHT1510	Warning tape		21d	08-Feb-14	03-Mar-14	14d
Fittings			36d	24-Dec-13	13-Feb-14	194d
NHT1520	Steel Elbows		21d	24-Dec-13	26-Jan-14	14d
NHT1530	Steel Tees		21d	24-Dec-13	26-Jan-14	14d
NHT1540	Steel reducers		21d	24-Dec-13	26-Jan-14	14d
NHT1550	flanges		21d	19-Jan-14	13-Feb-14	194d
NHT1560	Gaskets		21d	19-Jan-14	13-Feb-14	194d
NHT1570	Bolts ,washers & nuts		21d	19-Jan-14	13-Feb-14	194d
NHT1580	Mechanical coupling		21d	19-Jan-14	13-Feb-14	194d
NHT1590	Dismantling Joint		21d	19-Jan-14	13-Feb-14	194d
Gate Valves			31d	27-Jan-14	04-Mar-14	178d
NHT1600	Gate valves16 , 200mm		21d	27-Jan-14	20-Feb-14	188d
NHT1610	Gate valves PN16,150		21d	27-Jan-14	20-Feb-14	188d
NHT1620	Gate valves 100.		21d	27-Jan-14	20-Feb-14	188d
NHT1630	Gate valves 75.		21d	27-Jan-14	20-Feb-14	188d
NHT1640	Gate valves 50		21d	27-Jan-14	20-Feb-14	188d
NHT1650	Manual Actuator for gate valves		21d	09-Feb-14	04-Mar-14	178d
Butterfly valves			21d	28-Jan-14	22-Feb-14	187d
NHT1660	Butterfly valves PN40,300 mm		21d	28-Jan-14	22-Feb-14	187d
NHT1670	Butterfly valves PN40,250 mm		21d	28-Jan-14	22-Feb-14	187d
NHT1680	Butterfly valves PN25,250 mm		21d	28-Jan-14	22-Feb-14	187d
Washout valve			21d	30-Jan-14	24-Feb-14	185d



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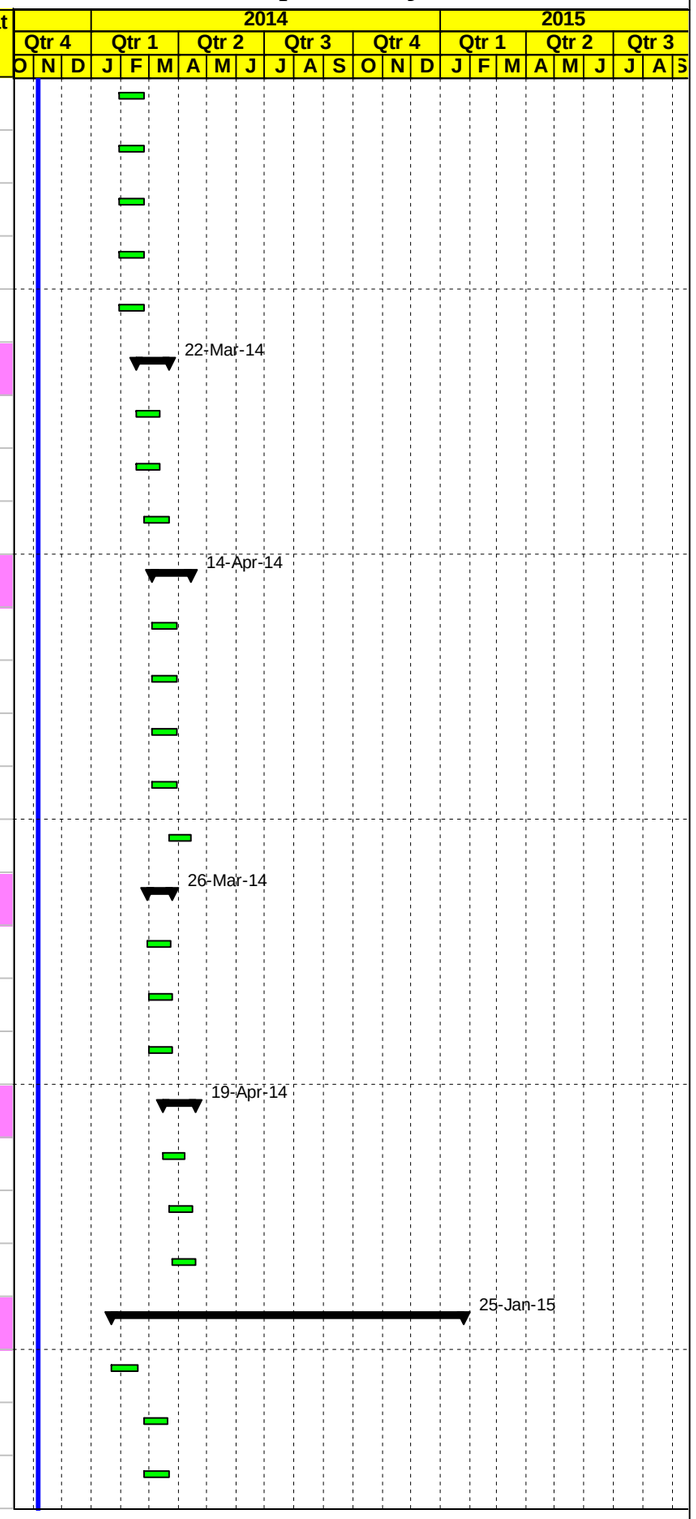
Nahaleen Main Pipeline Project

Activity ID	Activity Name	Crew Name	Original Duration	Start	Finish	Total Float
NHT1690	Washout gate valve PN40DN250		21d	30-Jan-14	24-Feb-14	185d
NHT1700	Washout gate valve PN40DN200		21d	30-Jan-14	24-Feb-14	185d
NHT1710	Washout gate valve PN25DN150		21d	30-Jan-14	24-Feb-14	185d
NHT1720	PN 16 bar, DN 75 mm washout Gate Valve on DN 150 mm and on DN 100 mm pipelines		21d	30-Jan-14	24-Feb-14	185d
NHT1730	PN 16 bar, DN 50 mm washout gate valve on DN 75 and DN 50 mm pipelines		21d	30-Jan-14	24-Feb-14	185d
Air relief valves	**and Pressure reducing valve**		29d	16-Feb-14	22-Mar-14	164d
NHT1740	Combination Air relief valves ,PN40,DN100-/PN25,DN80-/PN25,DN50		21d	16-Feb-14	12-Mar-14	172d
NHT1750	Air relief valves		21d	16-Feb-14	12-Mar-14	172d
NHT1760	Pressure reducing valves PN40 DN150		21d	25-Feb-14	22-Mar-14	164d
Water meters			34d	05-Mar-14	14-Apr-14	144d
NHT1770	Water meters PN40 at200mm pipe line		21d	05-Mar-14	30-Mar-14	157d
NHT1780	Water meters PN16 at 150mm pipe line		21d	05-Mar-14	30-Mar-14	157d
NHT1790	Water meters PN16 at 200mm pipe line		21d	05-Mar-14	30-Mar-14	157d
NHT1800	Water meters PN25 at 100 mm pipe line		21d	05-Mar-14	30-Mar-14	157d
NHT1802	Water meter (prepaid)		21d	22-Mar-14	14-Apr-14	144d
Manholes and chambers			23d	27-Feb-14	26-Mar-14	160d
NHT1820	Manhole Cover and Frame.		21d	27-Feb-14	24-Mar-14	162d
NHT1830	Ladders steps		21d	01-Mar-14	25-Mar-14	161d
NHT1840	Holding Jacks		21d	02-Mar-14	26-Mar-14	160d
Control Valves			30d	16-Mar-14	19-Apr-14	140d
NHT1890	Remote Control Monitoring Flow water meterPN40,DN250		21d	16-Mar-14	08-Apr-14	149d
NHT1870	Flow control valves		21d	23-Mar-14	15-Apr-14	143d
NHT1880	Remote Control Monitoring Flow water meterPN40,DN300		21d	26-Mar-14	19-Apr-14	140d
Others			283d	22-Jan-14	25-Jan-15	77d
NHT1900	Strainers.		21d	22-Jan-14	17-Feb-14	191d
NHT1910	Epoxy coating		21d	24-Feb-14	20-Mar-14	165d
NHT1920	Spacers		21d	25-Feb-14	22-Mar-14	23d



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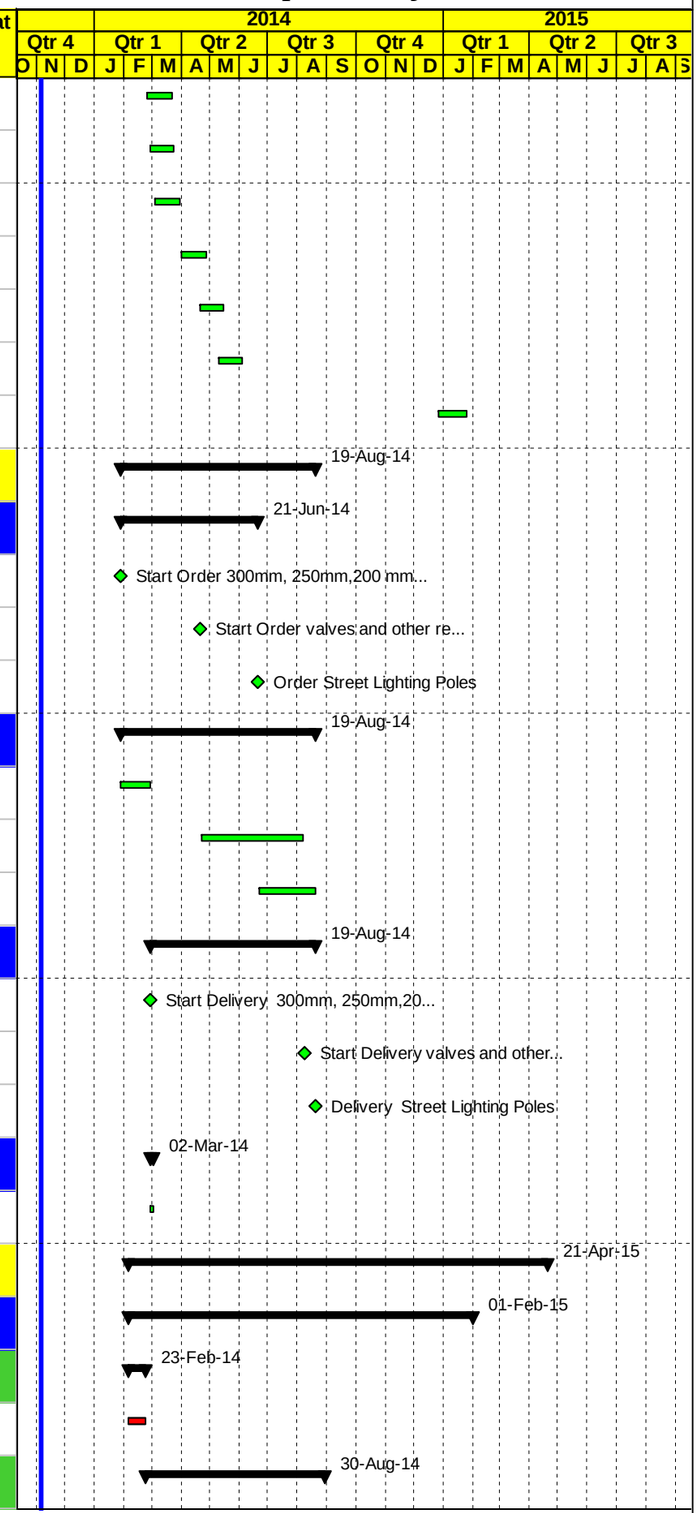
Nahaleen Main Pipeline Project

Activity ID	Activity Name	Crew Name	Original Duration	Start	Finish	Total Float
NHT1930	Tie rods		21d	25-Feb-14	22-Mar-14	23d
NHT1940	Air ventilation pipes		21d	27-Feb-14	24-Mar-14	162d
NHT1950	Pressure gauge with needle valve		21d	05-Mar-14	30-Mar-14	157d
NHT1960	Floor Boxes		21d	02-Apr-14	27-Apr-14	216d
NHT1970	Electrical tests and Commissioning		21d	21-Apr-14	15-May-14	201d
NHT1980	Earthing grounding system		21d	11-May-14	03-Jun-14	185d
NHT1990	Spare parts		21d	27-Dec-14	25-Jan-15	77d
Procurements			205d	27-Jan-14	19-Aug-14	224d
Order			120d	27-Jan-14	21-Jun-14	166d
NHT2000	Start Order 300mm, 250mm,200 mm, 150 mm ,100 mm , 75 mm& 50mm pipes and fittings		0d	27-Jan-14		14d
NHT2010	Start Order valves and other related materials		0d	21-Apr-14		140d
NHT2020	Order Street Lighting Poles		0d	21-Jun-14		166d
Manufacturing			165d	27-Jan-14	19-Aug-14	179d
NHT2030	300mm, 250mm,200 mm, 150 mm ,100 mm , 75 mm& 50mm pipes and fittings		28d	27-Jan-14	27-Feb-14	15d
NHT2040	Valves and other related materials		89d	22-Apr-14	07-Aug-14	145d
NHT2050	Street Lighting Poles		50d	22-Jun-14	19-Aug-14	179d
Delivery			137d	28-Feb-14	19-Aug-14	179d
NHT2060	Start Delivery 300mm, 250mm,200 mm, 150 mm ,100 mm , 75 mm& 50mm pipes and fittings		0d	28-Feb-14		15d
NHT2070	Start Delivery valves and other related materials		0d	08-Aug-14		145d
NHT2080	Delivery Street Lighting Poles		0d		19-Aug-14	179d
Testing			2d	28-Feb-14	02-Mar-14	15d
NHT2090	300mm, 250mm,200 mm, 150 mm ,100 mm , 75 mm& 50mm pipes and fittings		2d	28-Feb-14	02-Mar-14	15d
Construction Work			439d	05-Feb-14	21-Apr-15	0d
Group One from Sta.A0+000 to Sta.A3+320 Seg. C , E,Hussan & Battir Distribution pipes			360d	05-Feb-14	01-Feb-15	58d
Implementation traffic control and safety plan			14d	05-Feb-14	23-Feb-14	0d
NHT2505	Implementation traffic control and safety plan		14d	05-Feb-14	23-Feb-14	0d
SEG.A From Sta.A0+000 to Sta.A1+440 (Non-Residential area)			187d	23-Feb-14	30-Aug-14	205d



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Nahaleen Main Pipeline Project

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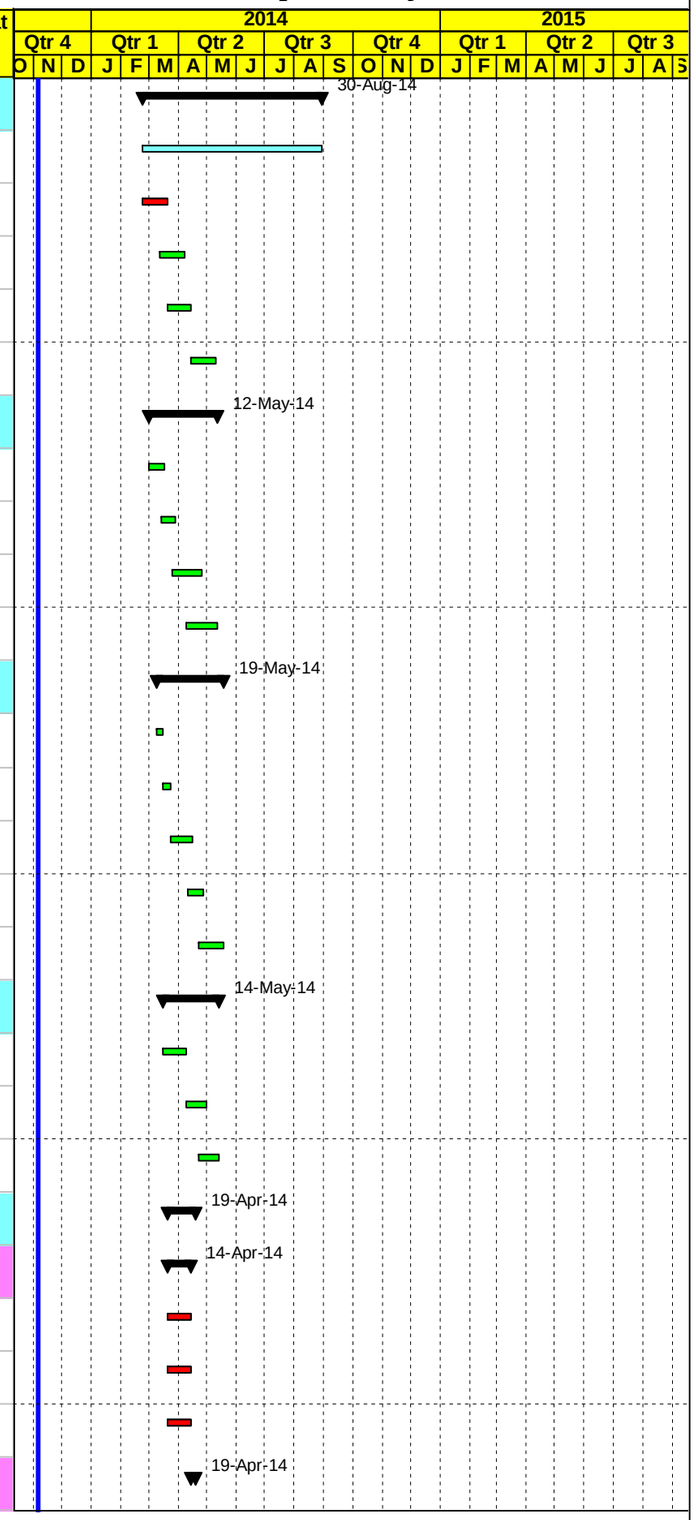
Safety and Excavation			145d	23-Feb-14	30-Aug-14	158d
NHT2510	Maintain traffic control and safety plan ,coordination for relocation utilities and others	Traffic & S.Crew#1	145d	23-Feb-14	30-Aug-14	158d
NHT2520	Excavation for reconstruction road From Sta. A0+000 To A0+720	Exca. Crew#1	21d	23-Feb-14	20-Mar-14	0d
NHT2530	Embankment for reconstruction road including subgrade SEG.A From Sta.A0+720 to Sta.A0+000	Exca. Crew#1	21d	13-Mar-14	07-Apr-14	24d
NHT2540	Excavation for reconstruction road From Sta. A0+720 To A1+440	Exca. Crew#1	21d	20-Mar-14	14-Apr-14	18d
NHT2550	Embankment for reconstruction road including subgrade SEG.A From Sta.A1+440 to Sta.A0+720	Exca. Crew#1	21d	14-Apr-14	11-May-14	18d
Concrete Wall Crew one			59d	02-Mar-14	12-May-14	27d
NHT2560	Construct R.Concrete Retaining wall from Sta. A0+129to A0+200 RHS (71 LM)	Conc.W. Crew#1	14d	02-Mar-14	18-Mar-14	27d
NHT2570	Construct R.Concrete Retaining wall from Sta. A0+290 to A0+355 RHS (65 LM)	Conc.W. Crew#1	13d	15-Mar-14	29-Mar-14	27d
NHT2580	Construct R.Concrete Retaining wall from Sta. A0+479 to A0+625 LHS (146 LM)	Conc.W. Crew#1	26d	26-Mar-14	26-Apr-14	27d
NHT2590	Construct R.Concrete Retaining wall from Sta. A0+625 to A0+770 LHS (145 LM)	Conc.W. Crew#1	26d	10-Apr-14	12-May-14	27d
Concrete Wall Crew two			59d	10-Mar-14	19-May-14	21d
NHT2600	Construct R.Concrete Retaining wall from Sta. A0+570 to A0+590 RHS (20 LM)	Conc.W. Crew#2	5d	10-Mar-14	15-Mar-14	21d
NHT2610	Construct R.Concrete Retaining wall from Sta. A0+800 to A0+840 LHS (40 LM)	Conc.W. Crew#2	8d	16-Mar-14	24-Mar-14	21d
NHT2620	Construct R.Concrete Retaining wall from Sta. A0+880 to A0+990 LHS (110 LM)	Conc.W. Crew#2	20d	25-Mar-14	16-Apr-14	21d
NHT2630	Construct R.Concrete Retaining wall from Sta. A0+918 to A0+990 RHS (72 LM)	Conc.W. Crew#2	14d	12-Apr-14	28-Apr-14	21d
NHT2640	Construct R.Concrete Retaining wall from Sta. A1+422 to A1+300 LHS (122 LM)	Conc.W. Crew#2	22d	23-Apr-14	19-May-14	21d
Box Culvert			50d	15-Mar-14	14-May-14	25d
NHT2650	Construct 2.0x2.0x19 M box culvert @Sta. A0+590	Box Culvert. Crew#1	23d	15-Mar-14	10-Apr-14	25d
NHT2660	Construct 1.5x1.5x12 M box culvert @Sta. A0+953	Box Culvert. Crew#1	16d	10-Apr-14	30-Apr-14	25d
NHT2670	Construct1.5x1.5x15 M box culvert @Sta. A1+356	Box Culvert. Crew#1	17d	23-Apr-14	14-May-14	25d
Pipe Installation			25d	20-Mar-14	19-Apr-14	0d
300 mm main pipeline			21d	20-Mar-14	14-Apr-14	0d
NHT2690	Trench excavation for 300mm main pipeline from Sta. A0+100 to sta. A1+310 length approx. (1210 LM)	Pipeline. Crew#1	21d	20-Mar-14	14-Apr-14	0d
NHT2700	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (1210 LM)	Pipeline. Crew#1	21d	20-Mar-14	14-Apr-14	0d
NHT2710	Backfill the pipe trench with (single size aggregate) to the required level (1210 LM)	Pipeline. Crew#1	21d	20-Mar-14	14-Apr-14	0d
300 mm main pipeline with 75 mm dist. Pipe			4d	14-Apr-14	19-Apr-14	0d



Level Of Effort | Actual Work | Early Bar | Critical Bar | Milestone | Summary

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05-Mar-14			

APCO/ArCon CONSTRUCTION AND SERVICES

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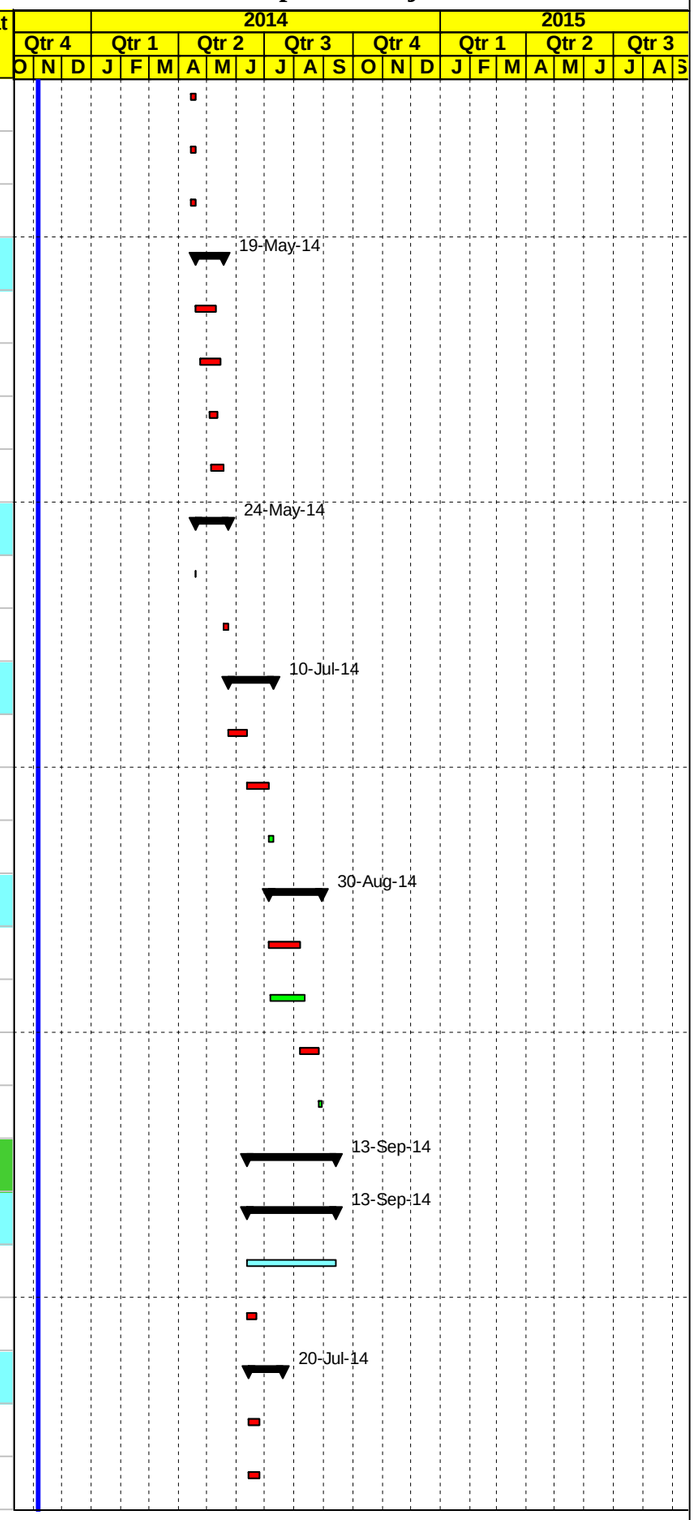
(Baseline)

TO# 15

Nahaleen Main Pipeline Project

Activity ID	Activity Name	Crew Name	Original Duration	Start	Finish	Total Float
NHT2680	Trench excavation for 300mm main pipeline with 75 mm dist. Pipe from sta. A1+310 TO A1+440 length approx. (130 LM)	Pipeline. Crew#1	4d	14-Apr-14	19-Apr-14	0d
NHT2682	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (130 LM)	Pipeline. Crew#1	4d	14-Apr-14	19-Apr-14	0d
NHT2685	Backfill the pipe trench with (single size aggregate) to the required level 130 LM)	Pipeline. Crew#1	4d	14-Apr-14	19-Apr-14	0d
Chamber work			24d	19-Apr-14	19-May-14	0d
NHT2720	Construct - Wash out Valve chamber @ Sta. A0+624 .A0+911& &A1+340	Valve chamber Crew#1	17d	19-Apr-14	11-May-14	0d
NHT2730	Construct - AR/AV Valve chamber @ Sta. A0+719, A1+108 and A1+213	Valve chamber Crew#1	17d	24-Apr-14	15-May-14	0d
NHT2740	Construct - Butterfly Valve chamber @ Sta.A1+084	Valve chamber Crew#1	8d	03-May-14	12-May-14	0d
NHT2750	Construct -300 mm flow monitoring chamber @ Sta.A0+660	Valve chamber Crew#1	12d	05-May-14	19-May-14	0d
Testing			36d	19-Apr-14	24-May-14	0d
NHT2755	Radiographic Testing (RT)	Pipeline. Crew#1	1d	19-Apr-14	19-Apr-14	0d
NHT2760	Pressure Testing	Pipeline. Crew#1	4d	19-May-14	24-May-14	0d
Base course and Asphalt From Sta. A0+000 To A0+720			37d	24-May-14	10-Jul-14	192d
NHT2780	20 cm thick for first base course layer	B.C. Crew#1	17d	24-May-14	12-Jun-14	0d
NHT2790	20 cm thick for second base course layer	B.C. Crew#1	17d	12-Jun-14	05-Jul-14	0d
NHT2800	7cm Asphalt wearing course including prime coat	Asphalt Crew#1	3d	05-Jul-14	10-Jul-14	192d
Base course ,Stone Wall and Asphalt From Sta. A0+720 To A1+440			37d	05-Jul-14	30-Aug-14	158d
NHT2802	20 cm thick for first base course layer	B.C. Crew#1	17d	05-Jul-14	06-Aug-14	0d
NHT2804	Construct stone walls from sta.A1+018 to A1+340	Stone W.. Crew#1	20d	07-Jul-14	11-Aug-14	171d
NHT2805	20 cm thick for second base course layer	B.C. Crew#1	17d	06-Aug-14	26-Aug-14	0d
NHT2809	7cm Asphalt wearing course including prime coat	Asphalt Crew#1	3d	26-Aug-14	30-Aug-14	158d
SEG.A From Sta.A1+440- A2+190 (Residential area)			92d	12-Jun-14	13-Sep-14	194d
Safety and Excavation			66d	12-Jun-14	13-Sep-14	149d
NHT2810	Maintain traffic control and safety plan with coordination	Traffic & S.Crew#1	66d	12-Jun-14	13-Sep-14	149d
NHT2820	Excavation for reconstruction road including subgrade and backfilling if required	Exca. Crew#1	8d	12-Jun-14	22-Jun-14	0d
Pipe Installation			24d	14-Jun-14	20-Jul-14	165d
NHT2830	Trench excavation for 300mm main pipeline with 75 mm dist. Pipe from A1+440 to sta. A2+190 length approx. (750 LM)	Pipeline. Crew#1	10d	14-Jun-14	25-Jun-14	0d
NHT2840	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection(750 LM)	Pipeline. Crew#1	10d	14-Jun-14	25-Jun-14	0d



Level Of Effort | Actual Work | Early Bar | Critical Bar | Milestone | Summary

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APCO/ArCon CONSTRUCTION AND SERVICES

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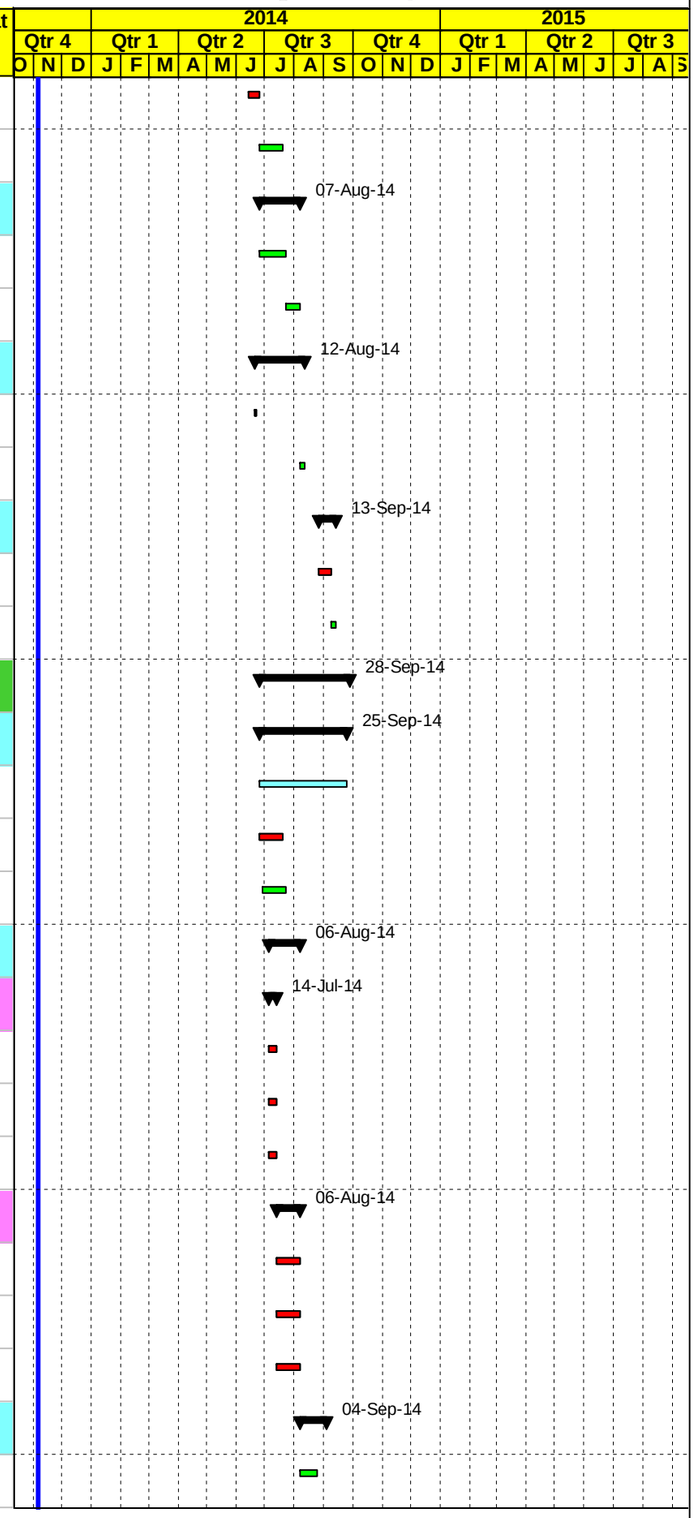
TO# 15

Nahaleen Main Pipeline Project

Activity ID	Activity Name	Crew Name	Original Duration	Start	Finish	Total Float
NHT2850	Backfill the pipe trench with (single size aggregate) to the required level (750 LM)	Pipeline. Crew#1	10d	14-Jun-14	25-Jun-14	0d
NHT2854	Water meters and House connection	Pipeline. Crew#1	14d	25-Jun-14	20-Jul-14	165d
Chamber work			24d	25-Jun-14	07-Aug-14	12d
NHT2860	Construct - AR/AV Valve chamber @ A1+457, Sta. A1+727 &,A1+820,.	Valve chamber Crew#1	16d	25-Jun-14	23-Jul-14	12d
NHT2870	Construct - Wash out Valve chamber @ Sta.A1+503	Valve chamber Crew#1	8d	23-Jul-14	07-Aug-14	12d
Testing			52d	21-Jun-14	12-Aug-14	14d
NHT2873	Radiographic Testing (RT)	Pipeline. Crew#1	1d	21-Jun-14	21-Jun-14	0d
NHT2880	Pressure Testing	Pipeline. Crew#1	4d	07-Aug-14	12-Aug-14	12d
Base course and Asphalt			15d	26-Aug-14	13-Sep-14	149d
NHT2890	20 cm thick for base course layer	B.C. Crew#1	12d	26-Aug-14	09-Sep-14	0d
NHT2930	7cm asphalt wearing course including prime coat	Asphalt Crew#1	3d	09-Sep-14	13-Sep-14	149d
SEG.A From Sta A2+190.to Sta. A3+320 (Non-Residential area)			94d	25-Jun-14	28-Sep-14	181d
Safety, Excavation and Box Culvert			66d	25-Jun-14	25-Sep-14	0d
NHT2940	Maintain traffic control and safety plan with coordination	Traffic & S.Crew#1	66d	25-Jun-14	25-Sep-14	0d
NHT2950	Excavation for reconstruction road including subgrade and backfilling if required	Exca. Crew#1	14d	25-Jun-14	20-Jul-14	0d
NHT2960	Construct - 1.5x15m Box culvert @ Sta.A2+225 with concrete inlet and outlet	Pipe C. Crew#1	14d	29-Jun-14	23-Jul-14	36d
Pipe Installation			17d	05-Jul-14	06-Aug-14	0d
300 mm main pipeline with 75 mm dist. Pipe			5d	05-Jul-14	14-Jul-14	0d
NHT2965	Trench excavation for 300mm main pipeline with 75 mm dist. Pipe from A2+190 to sta.A2+430 length approx. (240 LM)	Pipeline. Crew#1	5d	05-Jul-14	14-Jul-14	0d
NHT2980	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (240 LM)	Pipeline. Crew#1	5d	05-Jul-14	14-Jul-14	0d
NHT2990	Backfill the pipe trench with (single size aggregate) to the required level (240 LM)	Pipeline. Crew#1	5d	05-Jul-14	14-Jul-14	0d
300 mm main pipeline with 50 mm dist. Pipe			12d	14-Jul-14	06-Aug-14	0d
NHT2985	Trench excavation for 300mm main pipeline with 50 mm dist. Pipe from A2+430 to sta. A3+310 length approx. (880 LM)	Pipeline. Crew#1	12d	14-Jul-14	06-Aug-14	0d
NHT2987	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (880 LM)	Pipeline. Crew#1	12d	14-Jul-14	06-Aug-14	0d
NHT2999	Backfill the pipe trench with (single size aggregate) to the required level (880 LM)	Pipeline. Crew#1	12d	14-Jul-14	06-Aug-14	0d
Chamber work			25d	06-Aug-14	04-Sep-14	0d
NHT3035	Construct - AR/AV Valve chamber @ Sta.A3+120, A3+249 & A3+320	Valve chamber Crew#1	16d	06-Aug-14	25-Aug-14	9d



Level Of Effort | Actual Work | Early Bar | Critical Bar | Milestone | Summary

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APCO/ArCon CONSTRUCTION AND SERVICES

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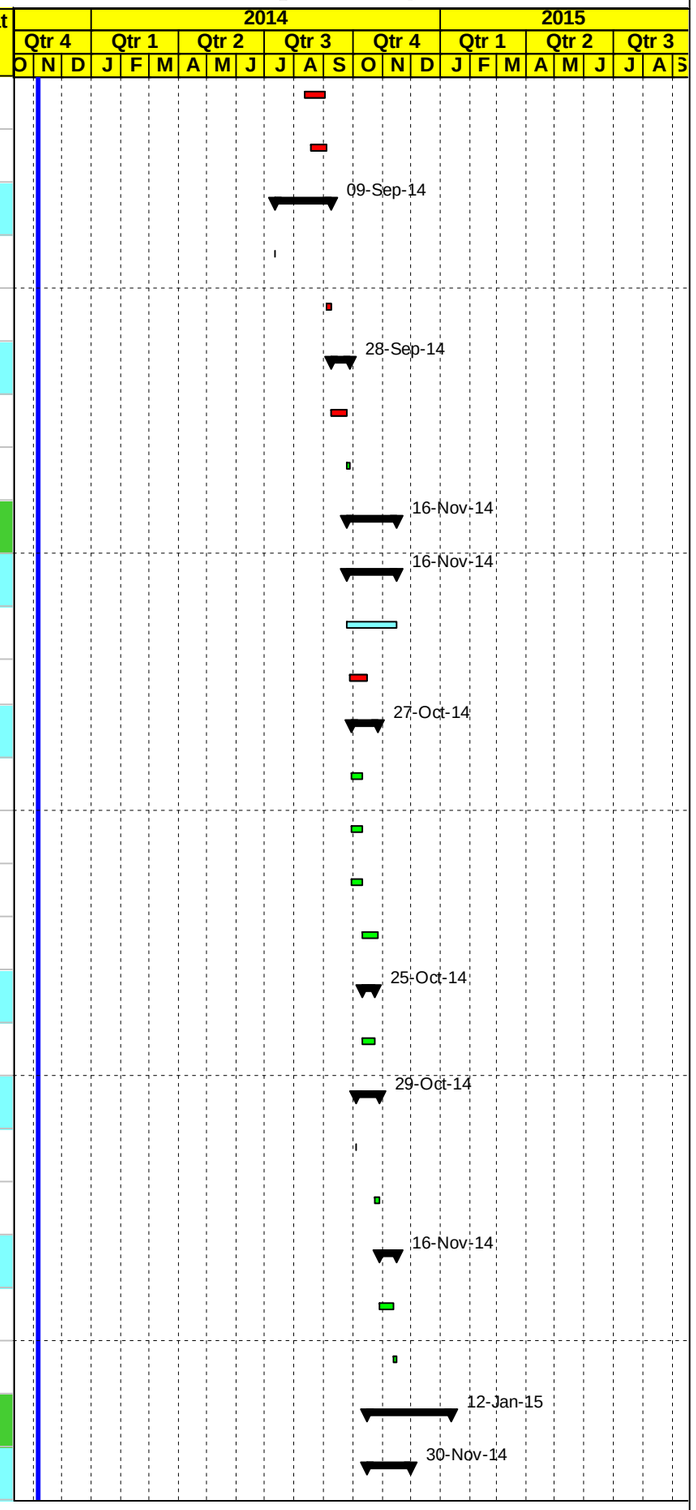
TO# 15

Nahaleen Main Pipeline Project

Activity ID	Activity Name	Crew Name	Original Duration	Start	Finish	Total Float
NHT3020	Construct - Wash out Valve chamber @ Sta.A2+222,A2+973,A3+187, & A3+281.	Valve chamber Crew#1	18d	12-Aug-14	02-Sep-14	0d
NHT3030	Construct - Butterfly Valve chamber @ Sta.A2+590	Valve chamber Crew#1	15d	18-Aug-14	04-Sep-14	0d
Testing			59d	12-Jul-14	09-Sep-14	0d
NHT3033	Radiographic Testing (RT)	Pipeline. Crew#1	1d	12-Jul-14	12-Jul-14	3d
NHT3040	Pressure Testing	Pipeline. Crew#1	4d	04-Sep-14	09-Sep-14	0d
Base course and Asphalt			16d	09-Sep-14	28-Sep-14	137d
NHT3050	20 cm thick for base course layer	B.C. Crew#1	14d	09-Sep-14	25-Sep-14	0d
NHT3055	7cm asphalt wearing course including prime coat	Asphalt Crew#1	2d	25-Sep-14	28-Sep-14	137d
SEG.C From St.C0+000 -St.C0+330 (Residential area)			52d	25-Sep-14	16-Nov-14	134d
Safety and Excavation			39d	25-Sep-14	16-Nov-14	102d
NHT3060	Maintain traffic control and safety plan with coordination	Traffic & S.Crew#1	39d	25-Sep-14	16-Nov-14	102d
NHT3070	Excavation for reconstruction road including subgrade and backfilling if required	Exca. Crew#1	12d	28-Sep-14	16-Oct-14	0d
Pipe Installation			19d	30-Sep-14	27-Oct-14	104d
NHT3080	Trench excavation for 200mm main pipeline with 100 mm dist. Pipe from C0+000 to sta. C0+330 (330 LM)	Pipeline. Crew#1	5d	30-Sep-14	11-Oct-14	20d
NHT3090	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (330 LM)	Pipeline. Crew#1	5d	30-Sep-14	11-Oct-14	20d
NHT3100	Backfill the pipe trench with (single size aggregate) to the required level (330 LM)	Pipeline. Crew#1	5d	30-Sep-14	11-Oct-14	20d
NHT3105	Water meters and House connection	Pipeline. Crew#1	14d	11-Oct-14	27-Oct-14	104d
Chamber work			12d	11-Oct-14	25-Oct-14	102d
NHT3110	Construct -Nahaleen Connection chamber @ Sta.C0+320	Valve chamber Crew#1	12d	11-Oct-14	25-Oct-14	102d
Testing			25d	04-Oct-14	29-Oct-14	136d
NHT3115	Radiographic Testing (RT)	Pipeline. Crew#1	1d	04-Oct-14	04-Oct-14	4d
NHT3120	Pressure Testing	Pipeline. Crew#1	4d	25-Oct-14	29-Oct-14	102d
Base course and Asphalt			14d	29-Oct-14	16-Nov-14	102d
NHT3130	20 cm thick for base course layer	B.C. Crew#1	12d	29-Oct-14	12-Nov-14	102d
NHT3170	7 cm Asphalt wearing course including prime coat	Asphalt Crew#1	2d	12-Nov-14	16-Nov-14	102d
SEG.E From Sta. E0+000 to Sta.E1+276			66d	16-Oct-14	12-Jan-15	62d
From Sta. E0+000 to Sta.E0+650			36d	16-Oct-14	30-Nov-14	90d



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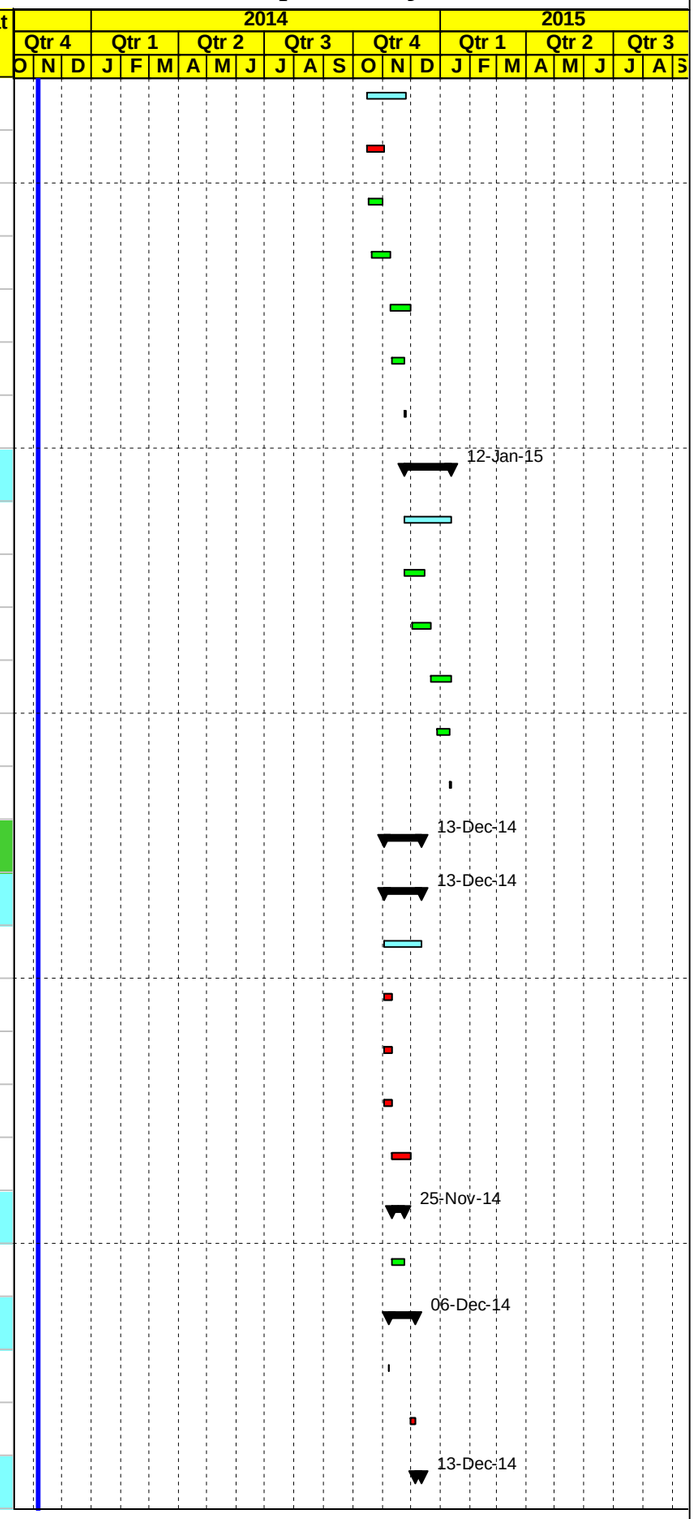
Nahaleen Main Pipeline Project

Activity ID	Activity Name	Crew Name	Original Duration	Start	Finish	Total Float
NHT3180	Maintain traffic control and safety plan ,coordination for relocation utilities and others	Traffic & S.Crew#1	33d	16-Oct-14	26-Nov-14	93d
NHT3190	Excavation for reconstruction road including subgrade and backfilling if required	Exca. Crew#1	15d	16-Oct-14	03-Nov-14	0d
NHT3210	PVC conduct cable for street lighting	Street L. Crew#1	13d	18-Oct-14	02-Nov-14	61d
NHT3220	20 cm thick for first base course layer	B.C. Crew#1	16d	21-Oct-14	09-Nov-14	61d
NHT3230	20 cm thick for second base course layer	B.C. Crew#1	16d	09-Nov-14	30-Nov-14	61d
NHT3240	Curbstone ,concrete side walks, ramps including 15 cm base course under side walk	Side walk Crew#1	9d	11-Nov-14	24-Nov-14	61d
NHT3245	7 cm Asphalt wearing course including prime	Asphalt Crew#1	2d	24-Nov-14	26-Nov-14	93d
From Sta. E0+650 to Sta.E1+276			35d	24-Nov-14	12-Jan-15	62d
NHT3250	Maintain traffic control and safety plan ,coordination for relocation utilities and others	Traffic & S.Crew#1	35d	24-Nov-14	12-Jan-15	62d
NHT3260	Excavation for reconstruction road including subgrade and backfilling if required	Exca. Crew#1	15d	25-Nov-14	15-Dec-14	61d
NHT3270	20 cm thick for first base course layer	B.C. Crew#1	14d	02-Dec-14	22-Dec-14	61d
NHT3280	20 cm thick for second base course layer	B.C. Crew#1	14d	22-Dec-14	12-Jan-15	61d
NHT3290	Curbstone ,concrete side walks, ramps including 15 cm base course under side walk	Side walk Crew#1	9d	28-Dec-14	10-Jan-15	62d
NHT3295	7 cm Asphalt wearing course including prime	Asphalt Crew#1	2d	10-Jan-15	12-Jan-15	62d
Hussan Distribution pipes			40d	03-Nov-14	13-Dec-14	0d
Safety and Pipe Installation			30d	03-Nov-14	13-Dec-14	0d
NHT3310	Maintain traffic control and safety plan ,coordination for relocation utilities and others	Traffic & S.Crew#1	30d	03-Nov-14	13-Dec-14	0d
NHT3320	Trench excavation for 100mm main pipeline at Hussan village length approx. (430 LM)	Pipeline. Crew#1	7d	03-Nov-14	11-Nov-14	0d
NHT3330	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (430 LM)	Pipeline. Crew#1	7d	03-Nov-14	11-Nov-14	0d
NHT3340	Backfill the pipe trench with (single size aggregate) to the required level	Pipeline. Crew#1	7d	03-Nov-14	11-Nov-14	0d
NHT3345	Water meters and House connection	Pipeline. Crew#1	14d	11-Nov-14	30-Nov-14	0d
Chamber work			10d	11-Nov-14	25-Nov-14	4d
NHT3350	Construct AR/AV Valve chamber @ Hussan village	Valve chamber Crew#1	10d	11-Nov-14	25-Nov-14	4d
Testing			28d	08-Nov-14	06-Dec-14	0d
NHT3354	Radiographic Testing (RT)	Pipeline. Crew#1	1d	08-Nov-14	08-Nov-14	0d
NHT3360	Pressure Testing	Pipeline. Crew#1	4d	30-Nov-14	06-Dec-14	0d
Asphalt			5d	06-Dec-14	13-Dec-14	0d



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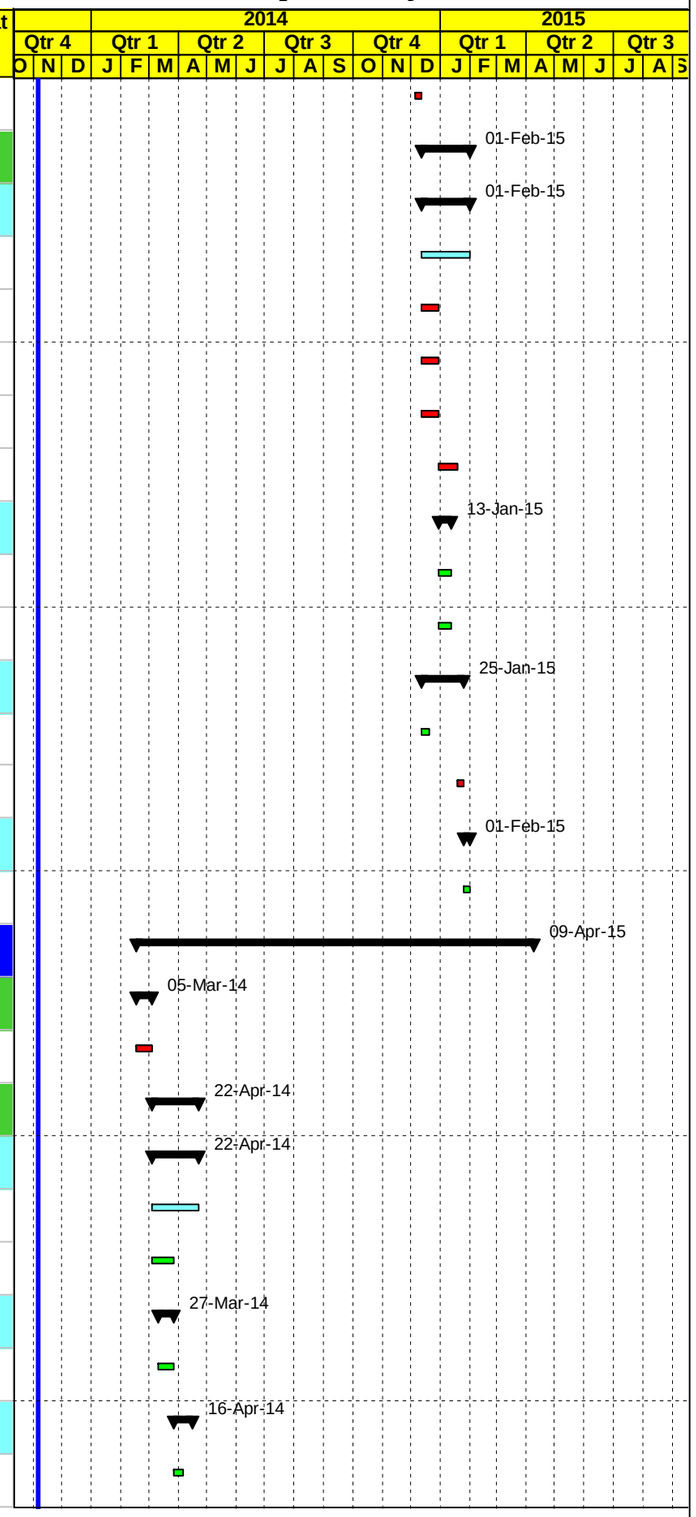
Nahaleen Main Pipeline Project

Activity ID	Activity Name	Crew Name	Original Duration	Start	Finish	Total Float
NHT3370	Restoration pavement full width	Asphalt Crew#1	5d	06-Dec-14	13-Dec-14	0d
Battir Distribution pipes			50d	13-Dec-14	01-Feb-15	58d
Safety and Pipe Installation			35d	13-Dec-14	01-Feb-15	48d
NHT3380	Maintain traffic control and safety plan ,coordination	Traffic & S.Crew#1	35d	13-Dec-14	01-Feb-15	48d
NHT3390	Trench excavation for 150mm main pipeline at Battir village length approx. (950 LM)	Pipeline. Crew#1	12d	13-Dec-14	30-Dec-14	0d
NHT3400	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection(950 LM)	Pipeline. Crew#1	12d	13-Dec-14	30-Dec-14	0d
NHT3410	Backfill the pipe trench with (single size aggregate) to the required level	Pipeline. Crew#1	12d	13-Dec-14	30-Dec-14	0d
NHT3415	Water meters and House connection	Pipeline. Crew#1	14d	30-Dec-14	19-Jan-15	0d
Chamber work			10d	30-Dec-14	13-Jan-15	4d
NHT3420	Construct -Gate Valve chamber @ Battir village	Valve chamber Crew#1	10d	30-Dec-14	13-Jan-15	4d
NHT3422	Construct - PRV chamber @ Battir village	Pipeline. Crews	10d	30-Dec-14	13-Jan-15	4d
Testing			43d	13-Dec-14	25-Jan-15	0d
NHT3425	Radiographic Testing (RT)	Pipeline. Crew#1	1d	13-Dec-14	20-Dec-14	2d
NHT3430	Pressure Testing	Pipeline. Crew#1	4d	19-Jan-15	25-Jan-15	0d
Asphalt			5d	25-Jan-15	01-Feb-15	48d
NHT3440	Restoration pavement full width	Asphalt Crew#1	5d	25-Jan-15	01-Feb-15	48d
Group Two Seg D , SEG.A Road From Sta. 3+320 to Sta. A8+203 and Seg. B			416d	17-Feb-14	09-Apr-15	11d
Implementation traffic control and safety plan			14d	17-Feb-14	05-Mar-14	0d
NHT3445	Implementation traffic control and safety plan		14d	17-Feb-14	05-Mar-14	0d
SEG.D From Sta.D0+518 to Sta.D0+000 (Non-Residential area)			48d	04-Mar-14	22-Apr-14	50d
Safety, Excavation and Concrete Works			39d	04-Mar-14	22-Apr-14	42d
NHT3450	Maintain traffic control and safety plan ,coordination for relocation utilities and others	Traffic & S.Crew#2	39d	04-Mar-14	22-Apr-14	42d
NHT3460	Excavation and R.concrete foundation supports for main pipeline	Exca. Crew#2	18d	05-Mar-14	27-Mar-14	22d
Pipe Installation			14d	11-Mar-14	27-Mar-14	22d
NHT3470	Install 300 mm main steel pipe line and cast concrete above supports (518 Lm)	Pipeline. Crew#2	14d	11-Mar-14	27-Mar-14	22d
Chamber work			17d	27-Mar-14	16-Apr-14	36d
NHT3480	Construct - Butterfly Valve chamber @ Sta.D0+504	Valve chamber Crew#2	8d	27-Mar-14	06-Apr-14	36d



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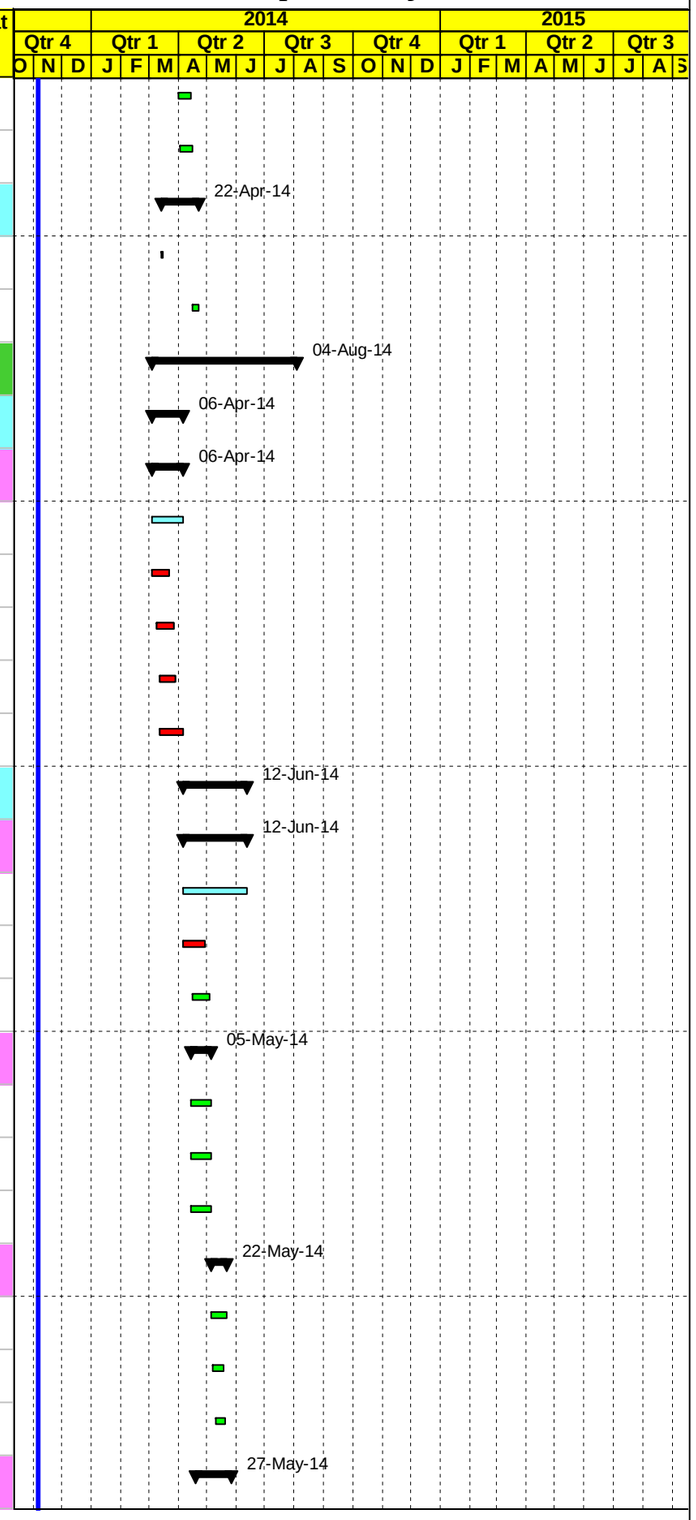
NHT3490	Construct - Wash out Valve chamber @ Sta.D0+500 & D0+080	Valve chamber Crew#2	11d	01-Apr-14	14-Apr-14	36d
NHT3500	Construct - AR/AV Valve chamber @ Sta.D0+110 & D0+068	Valve chamber Crew#2	11d	03-Apr-14	16-Apr-14	36d
Testing			38d	15-Mar-14	22-Apr-14	50d
NHT3515	Radiographic Testing (RT)	Pipeline. Crew#2	1d	15-Mar-14	15-Mar-14	11d
NHT3520	Pressure Testing	Pipeline. Crew#2	4d	16-Apr-14	22-Apr-14	42d
SEG.A From Sta.A3+320 to Sta.A5+800			152d	05-Mar-14	04-Aug-14	126d
SEG.A From Sta.A3+320 to Sta.A5+800 LHS (Widening and Milling)			26d	05-Mar-14	06-Apr-14	0d
Safety, Excavation, Culvert and Base course			26d	05-Mar-14	06-Apr-14	0d
NHT3530	Maintain traffic control and safety plan ,coordination for relocation utilities and others	Traffic & S.Crew#2	26d	05-Mar-14	06-Apr-14	0d
NHT3540	Saw Cut to Edge of Existing Asphalt ,and Excavation for road widening	Exca. Crew#2	14d	05-Mar-14	23-Mar-14	0d
NHT3550	Construct -LHS of 1.0x1.0m Box box culvert @ Sta.A3+636 with concrete outlet	Pipe C. Crew#2	16d	09-Mar-14	27-Mar-14	0d
NHT3560	Construct -LHS Dia.1000 mm of double pipe culvert @ Sta.A5+469 with concrete outlet	Pipe C. Crew#2	14d	13-Mar-14	30-Mar-14	0d
NHT3570	Subgrade and Install first and second layer of 20 cm base course for widening the road LHS	B.C. Crew#2	20d	13-Mar-14	06-Apr-14	0d
SEG.A From Sta.A3+320 to Sta.A4+560 RHS (Widening and Milling)			67d	06-Apr-14	12-Jun-14	172d
Safety, Excavation, Culvert , concrete channel and Basecourse			56d	06-Apr-14	12-Jun-14	129d
NHT3580	Maintain traffic control and safety plan ,coordination for relocation utilities and others	Traffic & S.Crew#2	56d	06-Apr-14	12-Jun-14	129d
NHT3590	Saw Cut to Edge of Existing Asphalt , Excavation for road widening and slope cut	Exca. Crew#2	20d	06-Apr-14	30-Apr-14	0d
NHT3600	Construct -RHS of 1.0x1.0m Box box culvert @ Sta.A3+636 with inlet	Pipe C. Crew#2	13d	16-Apr-14	04-May-14	138d
Pipe Installation			15d	15-Apr-14	05-May-14	17d
NHT3620	Trench excavation for 250 mm main pipeline from A3+350 to sta.A4+560 with length approx. (1210LM)	Pipeline. Crew#2	15d	15-Apr-14	05-May-14	6d
NHT3630	Bedding (crushed stone) and install the above main and distribution Steel pipe with welding inspection (1210LM)	Pipeline. Crew#2	15d	15-Apr-14	05-May-14	17d
NHT3640	Backfill the pipe trench with (single size aggregate) to the required level (1210LM)	Pipeline. Crew#2	15d	15-Apr-14	05-May-14	17d
Chamber work			15d	05-May-14	22-May-14	17d
NHT3650	Construct - Wash out Valve chamber @ Sta.3+612, 3+811 & 4+092	Valve chamber Crew#2	15d	05-May-14	22-May-14	17d
NHT3660	Construct - AR/AV Valve chamber @ Sta.A3+721	Valve chamber Crew#2	9d	08-May-14	19-May-14	18d
NHT3670	Construct - Butterfly Valve chamber @ Sta.A4+088	Valve chamber Crew#2	9d	11-May-14	21-May-14	18d
Testing			38d	19-Apr-14	27-May-14	20d



Level Of Effort | Actual Work | Early Bar | Critical Bar | Milestone | Summary

Date	Revision	Checked	Approved
05-Mar-14			

APCO ArCon CONSTRUCTION AND SERVICES

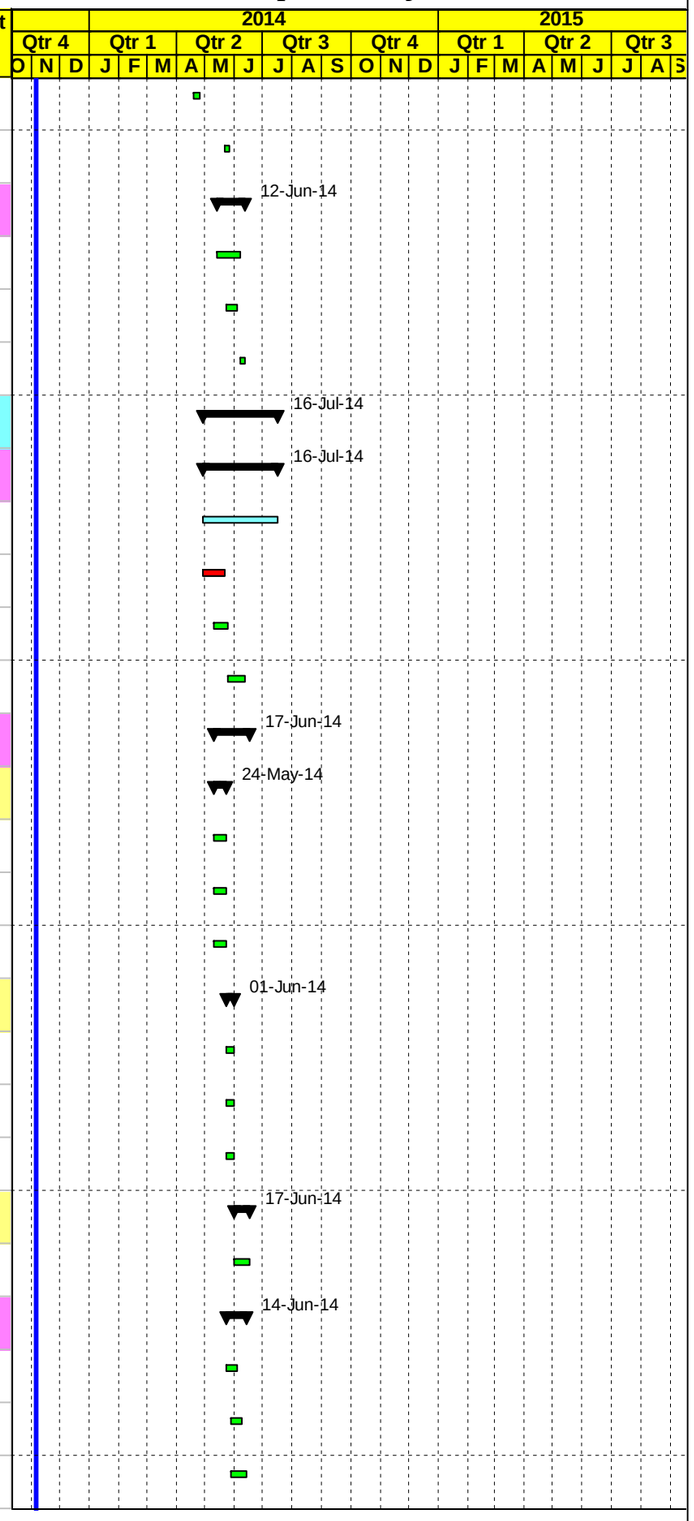
Construction Program

(Baseline)

TO# 15

Nahaleen Main Pipeline Project

Activity ID	Activity Name	Crew Name	Original Duration	Start	Finish	Total Float
NHT3675	Radiographic Testing (RT)	Pipeline. Crew#2	1d	19-Apr-14	26-Apr-14	5d
NHT3680	Pressure Testing	Pipeline. Crew#2	4d	22-May-14	27-May-14	17d
Base course and Stone Wall			25d	14-May-14	12-Jun-14	129d
NHT3685	Subgrad and install first and second layer of 20 cm base course for widening the road	B.C. Crew#2	20d	14-May-14	07-Jun-14	129d
NHT3688	Construct - Concrete channel from Sta.3+360 to sta. 3+850 RHS (490 LM)	Pipe C. Crew#2	10d	24-May-14	04-Jun-14	136d
NHT3700	Construct - stone wall l from Sta.A3+360 to sta. A3+370 RHS	Stone W.. Crew#2	5d	07-Jun-14	12-Jun-14	129d
SEG.A From Sta.A4+560 to Sta.A5+800 RHS (Pipeline)			77d	30-Apr-14	16-Jul-14	145d
Safety, Excavation and Concrete Works			60d	30-Apr-14	16-Jul-14	3d
NHT3710	Maintain traffic control and safety plan ,coordination for relocation utilities and others	Traffic & S.Crew#2	60d	30-Apr-14	16-Jul-14	3d
NHT3715	Saw Cut to Edge of Existing Asphalt , Excavation for road widening and slope cut	Exca. Crew#2	18d	30-Apr-14	22-May-14	0d
NHT3720	Construct -RHS Dia.1000 mm of double pipe culvert @ Sta.A5+469 with inlet	Pipe C. Crew#2	12d	11-May-14	25-May-14	19d
NHT3725	Construct 600 & 400 mm precast Concrete pipe for storm sytem with manholes &catch basin from st. A5+480-A5+800 (320 LM)	Pipe C. Crew#2	16d	25-May-14	12-Jun-14	3d
Pipe Installation			32d	11-May-14	17-Jun-14	130d
250 mm main pipeline			11d	11-May-14	24-May-14	6d
NHT3730	Trench excavation for 250 mm main pipeline from A4+560 to sta.A5+434 with length approx. (874 LM)	Pipeline. Crew#2	11d	11-May-14	24-May-14	1d
NHT3740	Bedding (crushed stone) and install the above main and distribution Steel pipe with welding inspection (874 LM)	Pipeline. Crew#2	11d	11-May-14	24-May-14	6d
NHT3750	Backfill the pipe trench with (single size aggregate) to the required level (874 LM)	Pipeline. Crew#2	11d	11-May-14	24-May-14	6d
250 mm main pipeline with 50 mm dist. Pipe			7d	24-May-14	01-Jun-14	1d
NHT3760	Trench excavation for 250mm main pipeline with 50 mm dist. Pipe from sta.A5+434 to A5+800 length approx. (366 LM)	Pipeline. Crew#2	7d	24-May-14	01-Jun-14	1d
NHT3763	Bedding (crushed stone) and install the above main and distribution Steel pipe with welding inspection (366 LM)	Pipeline. Crew#2	7d	24-May-14	01-Jun-14	1d
NHT3766	Backfill the pipe trench with (single size aggregate) to the required level (366 LM)	Pipeline. Crew#2	7d	24-May-14	01-Jun-14	1d
House connection			14d	01-Jun-14	17-Jun-14	130d
NHT3769	Water meters and House connection	Pipeline. Crew#2	14d	01-Jun-14	17-Jun-14	130d
Chamber work			18d	24-May-14	14-Jun-14	26d
NHT3790	Construct - Wash out Valve chamber @ 5+590	Valve chamber Crew#2	10d	24-May-14	04-Jun-14	6d
NHT3800	Construct - Butterfly Valve chamber @ A5+587	Valve chamber Crew#2	10d	28-May-14	09-Jun-14	6d
NHT3810	Construct -250mm flow monitoring chamber @ Sta.A5+725	Valve chamber Crew#2	13d	29-May-14	14-Jun-14	26d



Level Of Effort | Actual Work | Early Bar | Critical Bar | Milestone | Summary

Date	Revision	Checked	Approved
05-Mar-14			

APCO/ArCon CONSTRUCTION AND SERVICES

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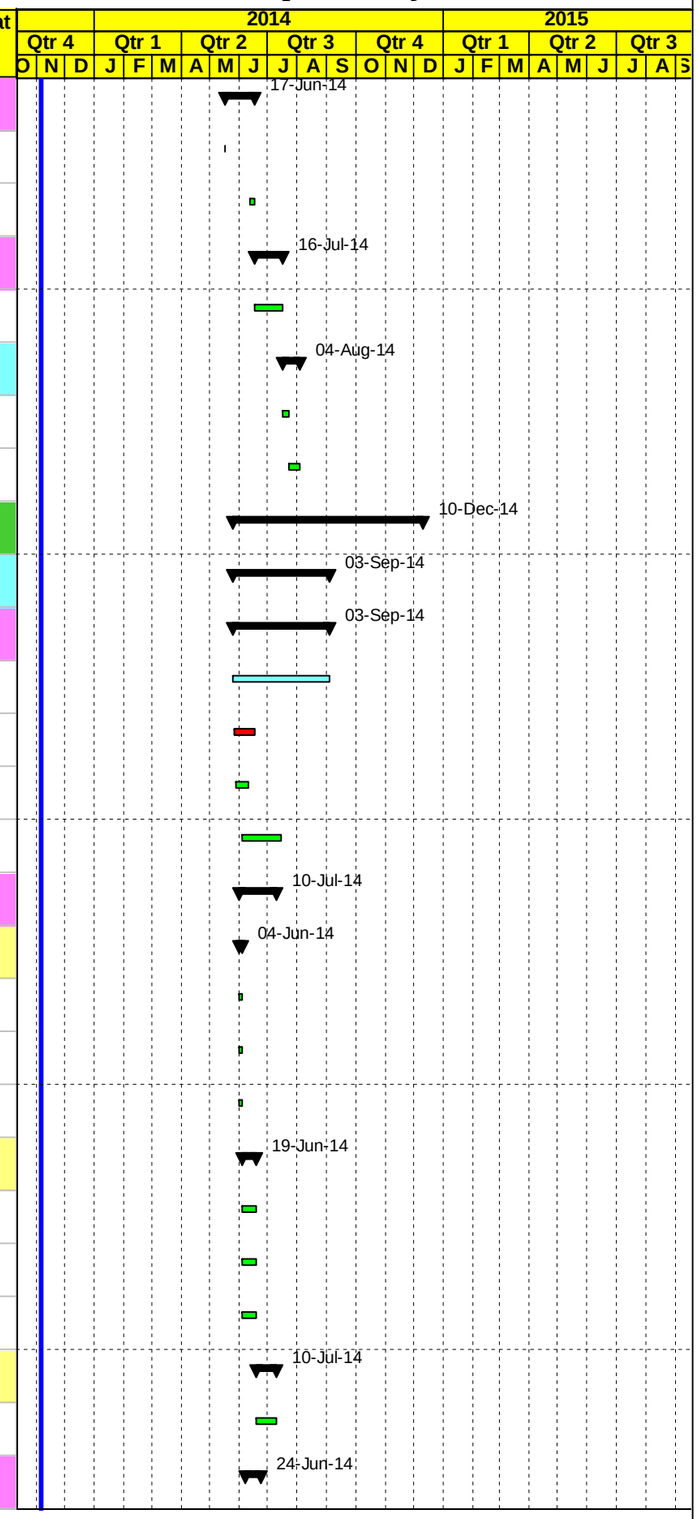
(Baseline)

TO# 15

Nahaleen Main Pipeline Project

Activity ID	Activity Name	Crew Name	Original Duration	Start	Finish	Total Float
Testing			31d	17-May-14	17-Jun-14	4d
NHT3815	Radiographic Testing (RT)	Pipeline. Crew#2	1d	17-May-14	17-May-14	2d
NHT3820	Pressure Testing	Pipeline. Crew#2	4d	12-Jun-14	17-Jun-14	3d
Base course			20d	17-Jun-14	16-Jul-14	3d
NHT3830	Subgrad and install first and second layer of 20 cm base course for widening the road	B.C. Crew#2	20d	17-Jun-14	16-Jul-14	3d
SEG.A From Sta.A3+320 to Sta.A5+800 RHS & LHS (Asphalt -work)			9d	16-Jul-14	04-Aug-14	101d
NHT3840	Asphalt milling for the existing road	Asphalt Crew#1	4d	16-Jul-14	23-Jul-14	101d
NHT3850	7 cm Asphalt wearing layer for road widening & 5cm overlay asphalt above milling road area including prime& tack coat	Asphalt Crew#1	5d	23-Jul-14	04-Aug-14	101d
SEG.A From Sta.A5+800 to Sta. 7+460			199d	25-May-14	10-Dec-14	42d
SEG.A From Sta.A5+800 to Sta. 6+630 RHS (Residential area)			101d	25-May-14	03-Sep-14	4d
Safety, Excavation, Pipe Culvert and storm system			75d	25-May-14	03-Sep-14	3d
NHT3860	Maintain traffic control and safety plan ,coordination for relocation utilities and others	Traffic & S.Crew#2	75d	25-May-14	03-Sep-14	3d
NHT3870	Saw Cut to Existing Asphalt and Excavation for reconstruction road including subgrade work	Exca. Crew#2	18d	27-May-14	17-Jun-14	0d
NHT3880	Construct -RHS Dia.800 mm of precast pipe culvert @ Sta.A6+198 with outlet	Pipe C. Crew#2	12d	28-May-14	11-Jun-14	24d
NHT3890	Construct 600 &400 mm precast concrete pipe for storm sytem with manholes &catch basin from st. A5+800 to A6+630	Pipe C. Crew#2	30d	04-Jun-14	14-Jul-14	2d
Pipe Installation			31d	01-Jun-14	10-Jul-14	33d
200 mm main pipeline with 100 mm dist. Pipe			3d	01-Jun-14	04-Jun-14	1d
NHT3900	Trench excavation for 200mm main pipeline with 100 mm dist. Pipe from A5+800 to sta.A5+840 length approx. (40 LM)	Pipeline. Crew#2	3d	01-Jun-14	04-Jun-14	1d
NHT3905	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (40 LM)	Pipeline. Crew#2	3d	01-Jun-14	04-Jun-14	1d
NHT3908	Backfill the pipe trench with (single size aggregate) to the required level (40 LM)	Pipeline. Crew#2	3d	01-Jun-14	04-Jun-14	1d
200 mm main pipeline with 150 mm dist. Pipe			13d	04-Jun-14	19-Jun-14	1d
NHT3910	Trench excavation for 200mm main pipeline with 150 mm dist. Pipe from A5+840 to sta.A6+630 length (790 LM)	Pipeline. Crew#2	13d	04-Jun-14	19-Jun-14	1d
NHT3920	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (790 LM)	Pipeline. Crew#2	13d	04-Jun-14	19-Jun-14	1d
NHT3930	Backfill the pipe trench with (single size aggregate) to the required level (790 LM)	Pipeline. Crew#2	13d	04-Jun-14	19-Jun-14	1d
House connection			15d	19-Jun-14	10-Jul-14	33d
NHT3935	Water meters and House connection	Pipeline. Crew#2	15d	19-Jun-14	10-Jul-14	33d
Testing			17d	07-Jun-14	24-Jun-14	21d



Level Of Effort | Actual Work | Early Bar | Critical Bar | Milestone | Summary

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APCO/ArCon CONSTRUCTION AND SERVICES

Construction Program

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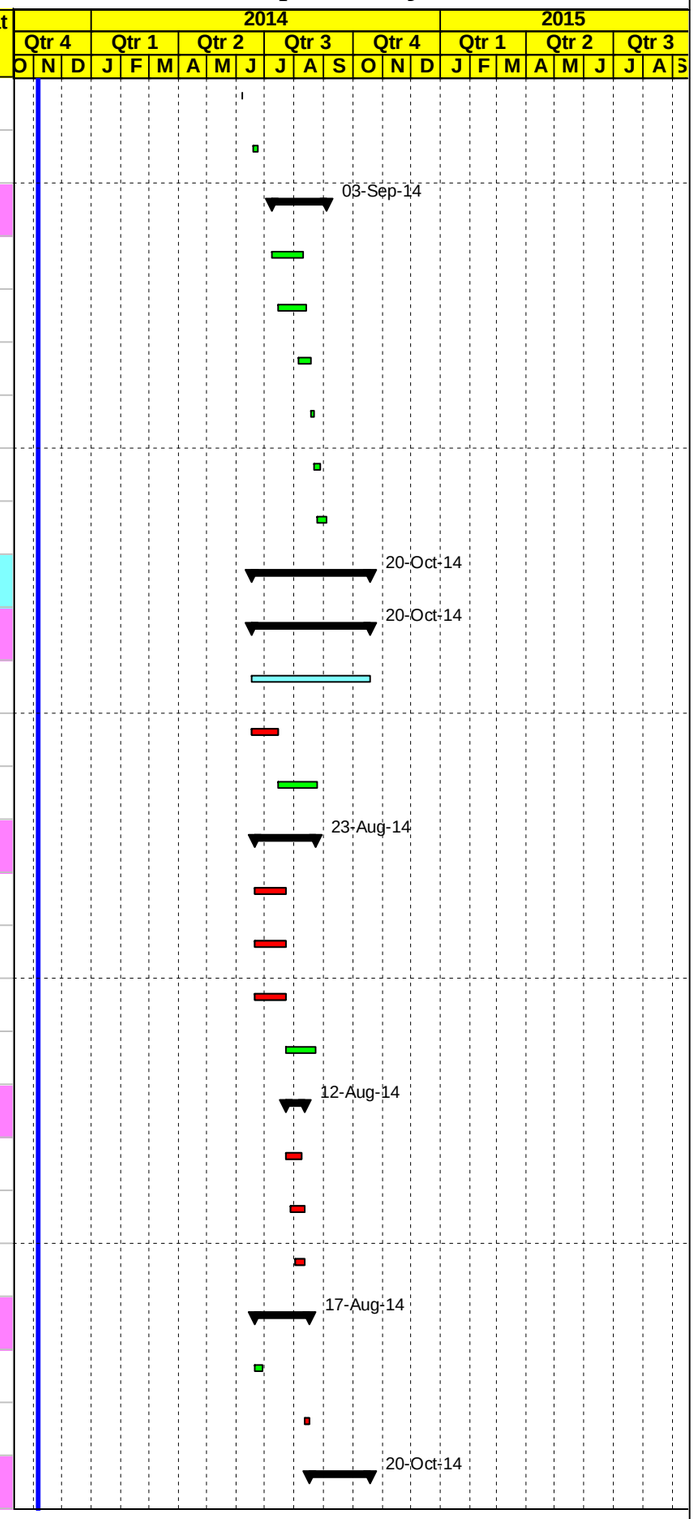
TO# 15

Nahaleen Main Pipeline Project

Activity ID	Activity Name	Crew Name	Original Duration	Start	Finish	Total Float
NHT3937	Radiographic Testing (RT)	Pipeline. Crew#2	1d	07-Jun-14	07-Jun-14	1d
NHT3940	Pressure Testing	Pipeline. Crew#2	4d	19-Jun-14	24-Jun-14	13d
Base course Side walk and asphalt			39d	09-Jul-14	03-Sep-14	3d
NHT3950	20 cm thick for first base course layer	B.C. Crew#2	18d	09-Jul-14	10-Aug-14	3d
NHT3960	20 cm thick for second base course layer	B.C. Crew#2	18d	14-Jul-14	13-Aug-14	3d
NHT3970	Foundation and PVC conduit cable for street lighting	Street L. Crew#1	12d	05-Aug-14	19-Aug-14	3d
NHT3980	5cm asphalt binder course including prime coat	Asphalt Crew#2	2d	19-Aug-14	21-Aug-14	3d
NHT3990	Construct curbstone after Saw cut the edge of asphalt binder course	Side walk Crew#2	6d	21-Aug-14	28-Aug-14	3d
NHT4000	Reinforced concrete side walks, ramps and stairs included15 cm base course under side walk	Side walk Crew#2	8d	25-Aug-14	03-Sep-14	3d
SEG.A From Sta.A6+630 to Sta. 7+460 RHS (Residential area)			125d	17-Jun-14	20-Oct-14	71d
Safety, Excavation and storm system			91d	17-Jun-14	20-Oct-14	54d
NHT4010	Maintain traffic control and safety plan ,coordination for relocation utilities and others	Traffic & S.Crew#2	91d	17-Jun-14	20-Oct-14	54d
NHT4020	Saw Cut to Existing Asphalt and Excavation for reconstruction road including subgrade work	Exca. Crew#2	18d	18-Jun-14	14-Jul-14	0d
NHT4030	Construct 600&400 mm precast concrete pipe for storm sytem with manholes & catch basin from st. A6+630 to A7+460	Pipe C. Crew#2	28d	14-Jul-14	25-Aug-14	2d
Pipe Installation			42d	21-Jun-14	23-Aug-14	90d
NHT4040	Trench excavation for 200mm main pipeline with 150 mm dist. Pipe from A6+630 to sta.A7+406.6 length (777 LM)	Pipeline. Crew#2	21d	21-Jun-14	23-Jul-14	0d
NHT4050	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (777 LM)	Pipeline. Crew#2	21d	21-Jun-14	23-Jul-14	0d
NHT4060	Backfill the pipe trench with (single size aggregate) to the required level	Pipeline. Crew#2	21d	21-Jun-14	23-Jul-14	0d
NHT4065	Water meters and House connection	Pipeline. Crew#2	21d	23-Jul-14	23-Aug-14	90d
Chamber work			12d	23-Jul-14	12-Aug-14	0d
NHT4070	Construct - AR/AV Valve chamber @ Sta.A7+046	Valve chamber Crew#2	9d	23-Jul-14	09-Aug-14	0d
NHT4080	Construct -200 Gate Valve chamber @ Sta.A7+085	Valve chamber Crew#2	9d	28-Jul-14	11-Aug-14	0d
NHT4090	Construct - Wash out Valve chamber @ Sta.A7+187	Valve chamber Crew#2	9d	02-Aug-14	12-Aug-14	0d
Testing			57d	21-Jun-14	17-Aug-14	0d
NHT4095	Radiographic Testing (RT)	Pipeline. Crew#2	1d	21-Jun-14	28-Jun-14	4d
NHT4100	Pressure Testing	Pipeline. Crew#2	4d	12-Aug-14	17-Aug-14	0d
Base course , street lighting ,Side walk ans asphalt			51d	17-Aug-14	20-Oct-14	54d



Level Of Effort | Actual Work | Early Bar | Critical Bar | Milestone | Summary

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APCO/ArCon CONSTRUCTION AND SERVICES

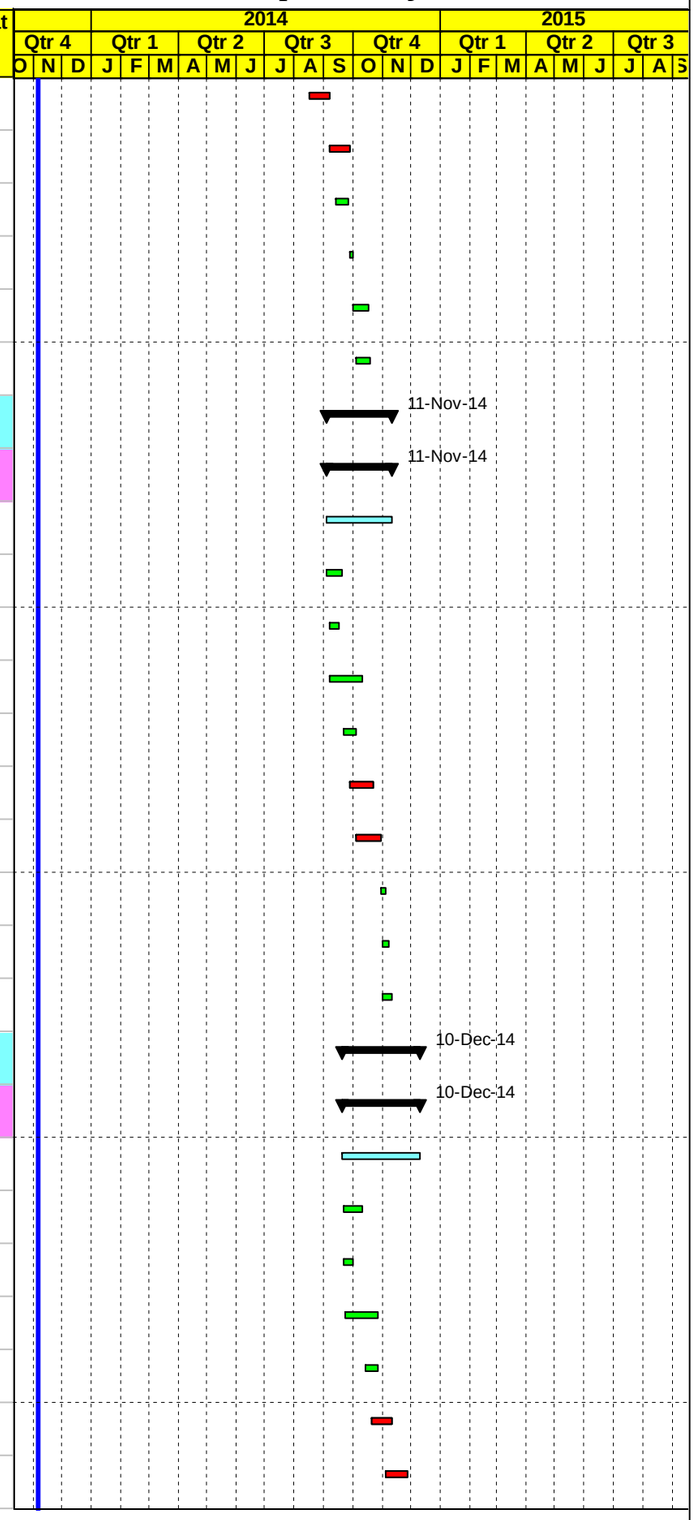
Construction Program

(Baseline)

TO# 15

Nahaleen Main Pipeline Project

Activity ID	Activity Name	Crew Name	Original Duration	Start	Finish	Total Float
NHT4110	20 cm thick for first base course layer	B.C. Crew#2	18d	17-Aug-14	07-Sep-14	0d
NHT4120	20 cm thick for second base course layer	B.C. Crew#2	18d	07-Sep-14	28-Sep-14	0d
NHT4130	Foundation and PVC conduit cable for street lighting	Street L. Crew#1	12d	13-Sep-14	27-Sep-14	55d
NHT4140	5cm asphalt binder course including prime coat	Asphalt Crew#1	4d	28-Sep-14	02-Oct-14	54d
NHT4150	Construct curbstone after Saw cut the edge of asphalt binder course	Side walk Crew#2	9d	02-Oct-14	18-Oct-14	54d
NHT4160	Reinforced concrete side walks, ramps and stairs included15 cm base course under side walk	Side walk Crew#2	10d	04-Oct-14	20-Oct-14	54d
SEG.A From Sta.A5+800 to Sta. 6+630 LHS (Residantial area)			55d	03-Sep-14	11-Nov-14	43d
Safety, Excavation, Pipe Culvert, storm system and base course			55d	03-Sep-14	11-Nov-14	43d
NHT4170	Maintain traffic control and safety plan ,coordination for relocation utilities and others	Traffic & S.Crew#2	55d	03-Sep-14	11-Nov-14	43d
NHT4180	Saw Cut to Existing Asphalt and Excavation for reconstruction road including subgrade work	Exca. Crew#2	13d	04-Sep-14	20-Sep-14	3d
NHT4190	Construct -LHS Dia.800 mm of precast pipe culvert @ Sta.A6+198 with inlet	Pipe C. Crew#2	9d	06-Sep-14	16-Sep-14	5d
NHT4200	Construct 400 mm precast Concrete crossing pipe for storm system with catch basin from sta. A5+800 to A6+630	Pipe C. Crew#2	25d	07-Sep-14	11-Oct-14	5d
NHT4230	Construct outfall 600mm concrete pipe as storm system with manholes&headwall for hussan @ st.A6+570 (134 LM)	Pipe C. Crew#2	10d	22-Sep-14	04-Oct-14	13d
NHT4210	20 cm thick for first base course layer	B.C. Crew#2	18d	28-Sep-14	23-Oct-14	0d
NHT4220	20 cm thick for second base course layer	B.C. Crew#2	18d	05-Oct-14	30-Oct-14	0d
NHT4240	5cm asphalt binder course including prime coat	Asphalt Crew#2	4d	30-Oct-14	04-Nov-14	43d
NHT4250	Construct curbstone after Saw cut the edge of asphalt binder course	Side walk Crew#2	6d	01-Nov-14	08-Nov-14	43d
NHT4260	Reinforced concrete side walks, ramps and stairs including 15 cm base course under side walk	Side walk Crew#2	8d	02-Nov-14	11-Nov-14	43d
SEG.A From Sta.A6+630 to Sta. 7+460 LHS (Residential area)			63d	20-Sep-14	10-Dec-14	29d
Safety, Excavation, Pipe Culvert, storm system, base course, Side walk and asphalt			63d	20-Sep-14	10-Dec-14	29d
NHT4270	Maintain traffic control and safety plan ,coordination for relocation utilities and others	Traffic & S.Crew#2	63d	20-Sep-14	10-Dec-14	29d
NHT4280	Saw Cut to Existing Asphalt and Excavation for reconstruction road including subgrade work	Exca. Crew#2	13d	21-Sep-14	11-Oct-14	3d
NHT4290	Construct -LHS Dia.800 mm of precast pipe culvert @ Sta.A6+198 with inlet	Pipe C. Crew#2	9d	22-Sep-14	02-Oct-14	5d
NHT4300	Construct 400 mm precast Concrete crossing pipe for storm system with catch basin from sta. A6+630 to A7+460	Pipe C. Crew#2	25d	23-Sep-14	27-Oct-14	5d
NHT4330	Construct outfall 600mm concrete pipe as storm system with manholes&headwall for hussan @ A7+172 (150 LM)	Pipe C. Crew#2	10d	15-Oct-14	27-Oct-14	61d
NHT4310	20 cm thick for first base course layer	B.C. Crew#2	18d	21-Oct-14	11-Nov-14	0d
NHT4320	20 cm thick for second base course layer	B.C. Crew#2	18d	04-Nov-14	27-Nov-14	0d



Level Of Effort | Actual Work | Early Bar | Critical Bar | Milestone | Summary

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APCO/ArCon CONSTRUCTION AND SERVICES

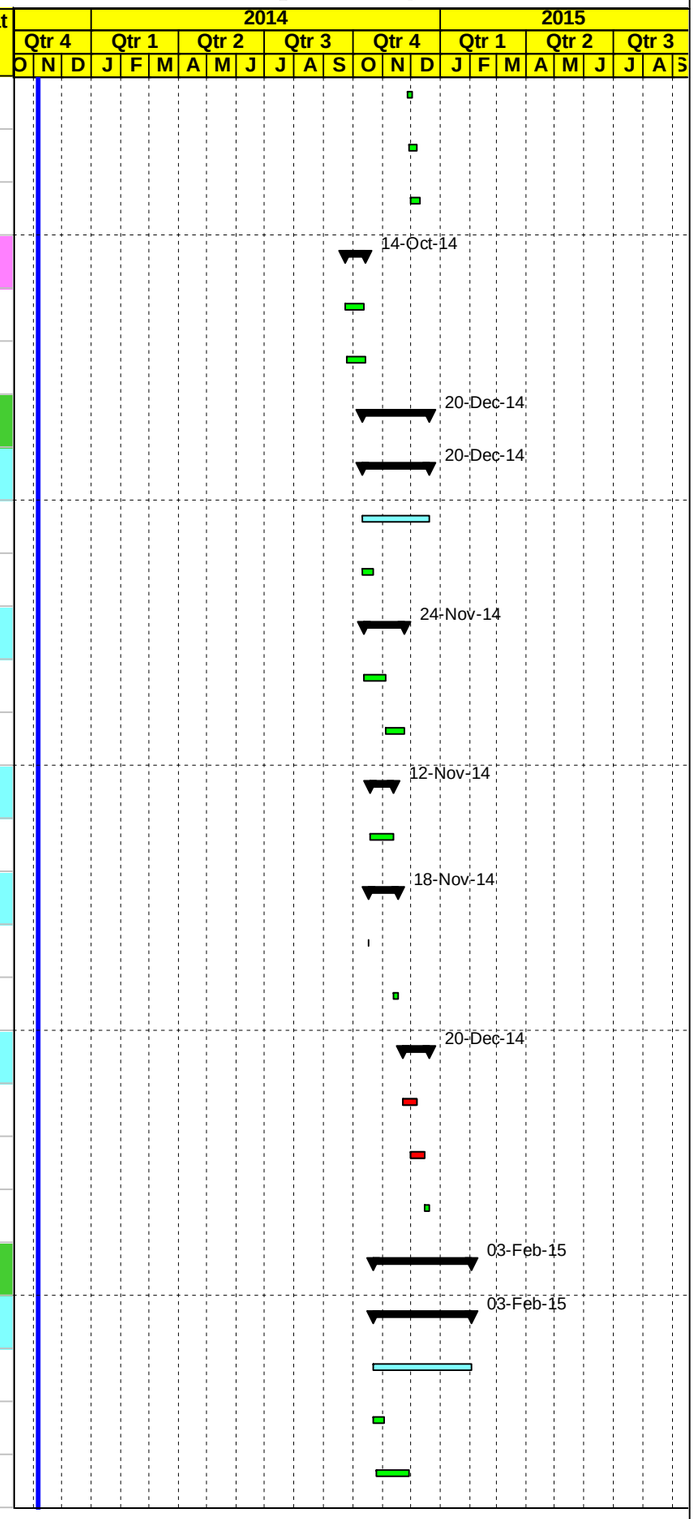
Construction Program

(Baseline)

TO# 15

Nahaleen Main Pipeline Project

Activity ID	Activity Name	Crew Name	Original Duration	Start	Finish	Total Float
NHT4340	5cm asphalt binder course including prime coat	Asphalt Crew#2	4d	27-Nov-14	02-Dec-14	29d
NHT4350	Construct curbstone after Saw cut the edge of asphalt binder course	Side walk Crew#2	6d	29-Nov-14	07-Dec-14	29d
NHT4360	Reinforced concrete side walks, ramps and stairs including 15 cm base course under side walk	Side walk Crew#2	8d	30-Nov-14	10-Dec-14	29d
Chamber work			14d	23-Sep-14	14-Oct-14	12d
NHT4370	Construct -Hussan Connection chamber @ Sta.A7+390	Valve chamber Crew#2	12d	23-Sep-14	12-Oct-14	12d
NHT4380	Construct -Battir Connection chamber @ Sta.A7+410	Valve chamber Crew#2	13d	24-Sep-14	14-Oct-14	12d
SEG.A Road From Sta. 7+460 to Sta. A8+203			70d	11-Oct-14	20-Dec-14	87d
Safety and Excavation			55d	11-Oct-14	20-Dec-14	66d
NHT4390	Maintain traffic control and safety plan ,coordination for relocation utilities and others	Traffic & S.Crew#2	55d	11-Oct-14	20-Dec-14	66d
NHT4400	Excavation for reconstruction road including subgrade and backfilling if required	Exca. Crew#2	10d	11-Oct-14	22-Oct-14	3d
Pipe Installation			34d	13-Oct-14	24-Nov-14	83d
NHT4410	Trench Excavation, bedding, install & backfill for 50mm pipes (7+400 to 8+100) (700 LM)	Pipeline. Crew#2	20d	13-Oct-14	05-Nov-14	3d
NHT4415	Water meters and House connection	Pipeline. Crew#2	14d	05-Nov-14	24-Nov-14	83d
Chamber Work			21d	19-Oct-14	12-Nov-14	3d
NHT4420	Gate Valves	Pipeline. Crew#2	21d	19-Oct-14	12-Nov-14	3d
Testing			31d	18-Oct-14	18-Nov-14	5d
NHT4425	Radiographic Testing (RT)	Pipeline. Crew#2	1d	18-Oct-14	18-Oct-14	4d
NHT4430	Pressure Testing	Pipeline. Crew#2	4d	12-Nov-14	18-Nov-14	3d
Base course and Asphalt			20d	23-Nov-14	20-Dec-14	66d
NHT4440	20 cm thick for first base course layer	B.C. Crew#2	11d	23-Nov-14	07-Dec-14	0d
NHT4450	20 cm thick for second base course layer	B.C. Crew#2	11d	01-Dec-14	16-Dec-14	0d
NHT4460	5cm asphalt binder course including prime coat	Asphalt Crew#1	2d	16-Dec-14	20-Dec-14	66d
SEG.B From Sta. B0+000 to Sta. B0+985 RHS (Residential area)			104d	22-Oct-14	03-Feb-15	0d
Safety, Excavation and Storm system			77d	22-Oct-14	03-Feb-15	0d
NHT4470	Maintain traffic control and safety plan ,coordination for relocation utilities and others	Traffic & S.Crew#2	77d	22-Oct-14	03-Feb-15	0d
NHT4480	Saw Cut to Existing Asphalt and Excavation for reconstruction road including subgrade work	Exca. Crew#2	10d	22-Oct-14	03-Nov-14	9d
NHT4490	Construct 600 &400 mm precast concrete pipe for storm sytem with manholes & catch basin from sta. B0+000 to sta. B0+985	Pipe C. Crew#2	28d	25-Oct-14	29-Nov-14	13d



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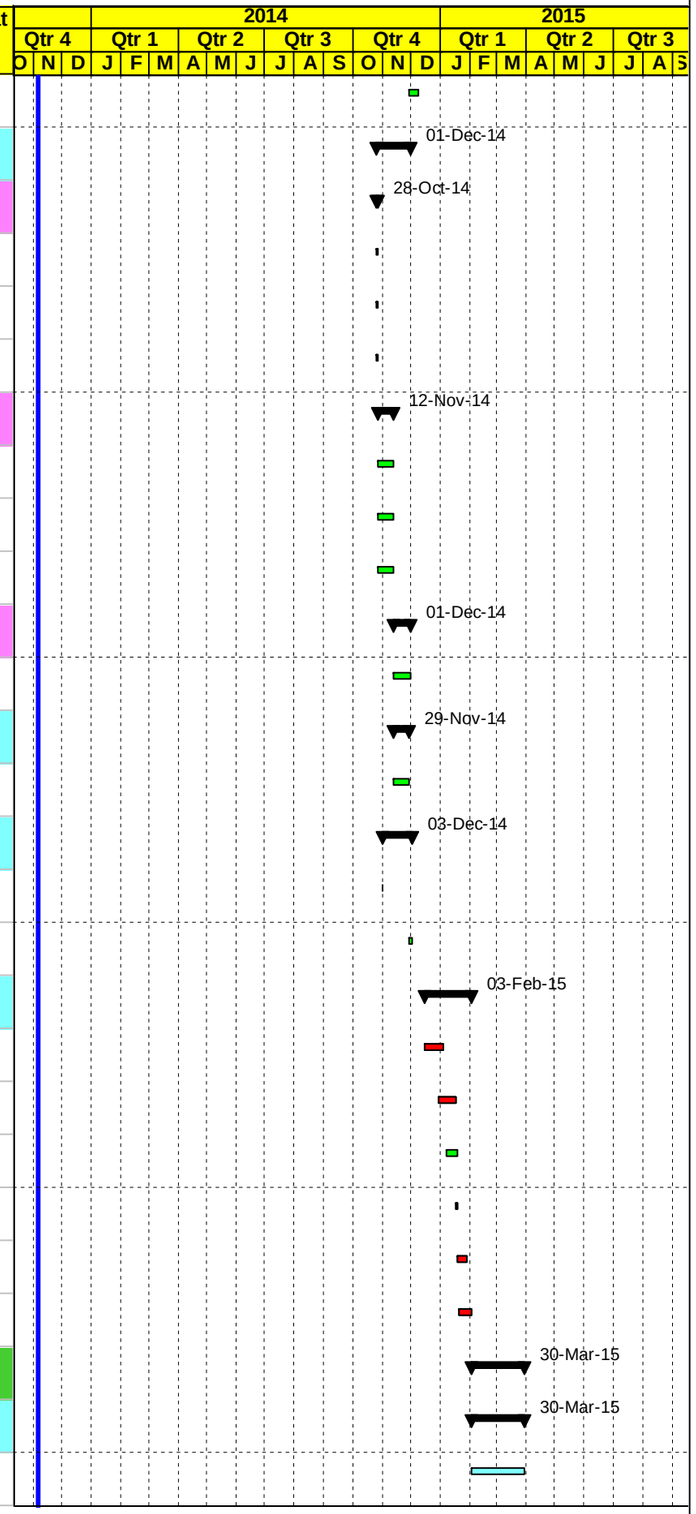
Nahaleen Main Pipeline Project

Activity ID	Activity Name	Crew Name	Original Duration	Start	Finish	Total Float
NHT4500	Construct outfall 600mm concrete pipe as storm system with manholes&headwall for hussan @ st.B0+537&B0+714(115 & 50 LM	Pipe C. Crew#2	8d	29-Nov-14	09-Dec-14	39d
Pipe Installation			30d	25-Oct-14	01-Dec-14	36d
100 mm main pipeline from			3d	25-Oct-14	28-Oct-14	9d
NHT4510	Trench excavation for 100 mm main pipeline from B0+010 to sta.B0+100 with length approx. (90 LM)	Pipeline. Crew#2	3d	25-Oct-14	28-Oct-14	9d
NHT4513	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (90 LM)	Pipeline. Crew#2	3d	25-Oct-14	28-Oct-14	9d
NHT4515	Backfill the pipe trench with (single size aggregate) to the required level (90 LM)	Pipeline. Crew#2	3d	25-Oct-14	28-Oct-14	9d
100 mm main pipeline with 100 mm dist. Pipe			13d	28-Oct-14	12-Nov-14	9d
NHT4520	Trench excavation for 100mm main pipeline with 100 mm dist. Pipe from B0+100 to sta. B0+985 with length. (885 LM)	Pipeline. Crew#2	13d	28-Oct-14	12-Nov-14	9d
NHT4530	Bedding (crushed stone) and install the above main and distribution Steel pipes with welding inspection (885 LM)	Pipeline. Crew#2	13d	28-Oct-14	12-Nov-14	9d
NHT4540	Backfill the pipe trench with (single size aggregate) to the required level	Pipeline. Crew#2	13d	28-Oct-14	12-Nov-14	9d
House connection			14d	12-Nov-14	01-Dec-14	36d
NHT4545	Water meters and House connection	Pipeline. Crew#1	14d	12-Nov-14	01-Dec-14	36d
Chamber work			12d	12-Nov-14	29-Nov-14	9d
NHT4550	Construct -Wadi Fukin Connection chamber @ Sta.B0+957	Valve chamber Crew#2	12d	12-Nov-14	29-Nov-14	9d
Testing			32d	01-Nov-14	03-Dec-14	13d
NHT4555	Radiographic Testing (RT)	Pipeline. Crew#1	1d	01-Nov-14	01-Nov-14	3d
NHT4560	Pressure Testing	Pipeline. Crew#2	4d	29-Nov-14	03-Dec-14	9d
Base course , street lighting , Side walk an asphalt			34d	16-Dec-14	03-Feb-15	0d
NHT4570	20 cm thick for first base course layer	B.C. Crew#2	12d	16-Dec-14	04-Jan-15	0d
NHT4580	20 cm thick for second base course layer	B.C. Crew#2	12d	30-Dec-14	17-Jan-15	0d
NHT4590	Reinf.concrete foundation and PVC conduit cable for street lighting	Street L. Crew#1	7d	08-Jan-15	18-Jan-15	12d
NHT4600	5cm asphalt binder course including prime coat	Asphalt Crew#1	2d	17-Jan-15	19-Jan-15	0d
NHT4610	Construct curbstone after Saw cut the edge of asphalt binder course	Side walk Crew#2	7d	19-Jan-15	28-Jan-15	0d
NHT4620	Reinforced concrete side walks, ramps and stairs included 15 cm base course under side walk	Side walk Crew#2	9d	21-Jan-15	03-Feb-15	0d
SEG.B From Sta. B0+000 to Sta. B0+985 LHS (Residential area)			45d	03-Feb-15	30-Mar-15	0d
Testing, Base course ,Side walk and Asphalt			45d	03-Feb-15	30-Mar-15	0d
NHT4630	Maintain traffic control and safety plan ,coordination for relocation utilities and others	Traffic & S.Crew#2	45d	03-Feb-15	30-Mar-15	0d



Level Of Effort | Actual Work | Early Bar | Critical Bar | Milestone | Summary

Date	Revision	Checked	Approved
05-Mar-14			

APCO/ArCon CONSTRUCTION AND SERVICES

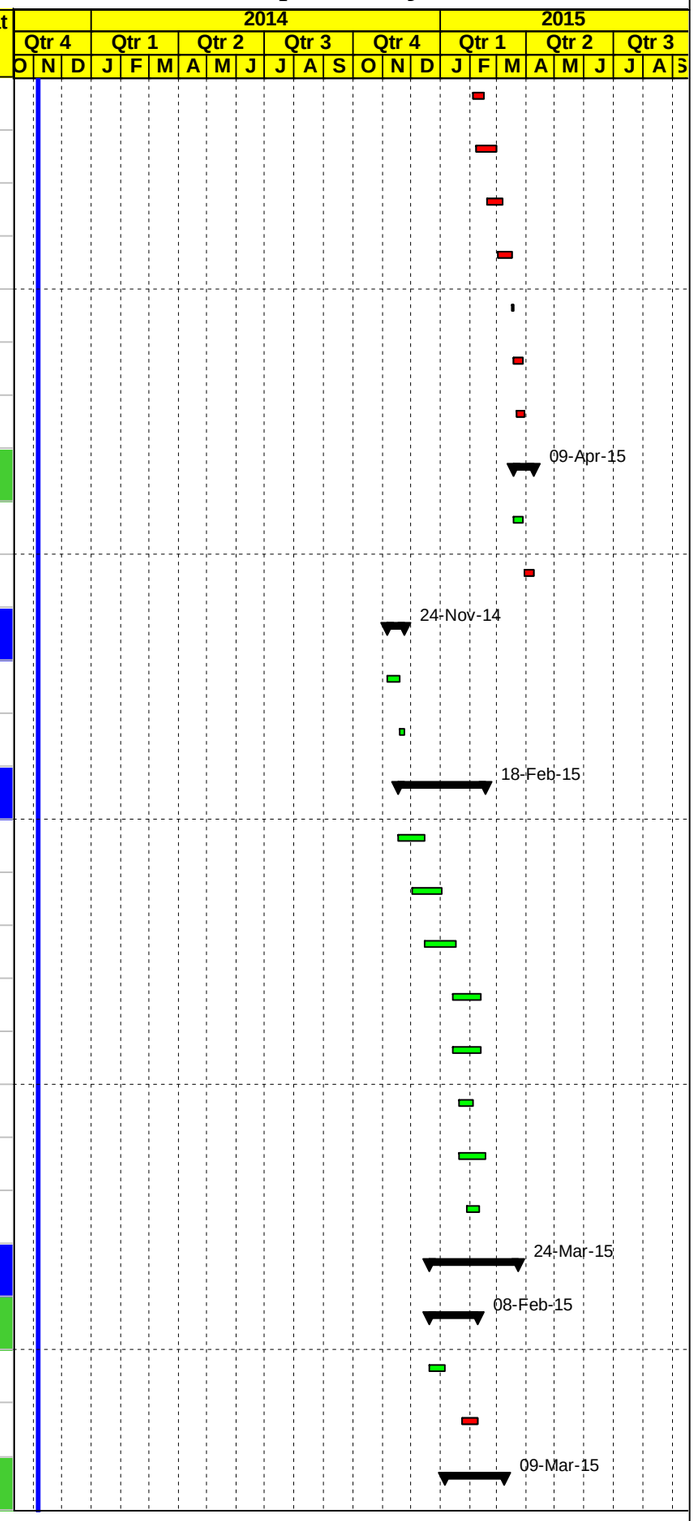
Construction Program

(Baseline)

TO# 15

Nahaleen Main Pipeline Project

Activity ID	Activity Name	Crew Name	Original Duration	Start	Finish	Total Float
NHT4640	Saw Cut to Existing Asphalt and Excavation for reconstruction road including subgrade work	Exca. Crew#2	9d	04-Feb-15	16-Feb-15	0d
NHT4650	Construct 400 mm precast Concrete crossing pipe for storm system with catch basin from sta. B0+000 to B0+985 (985 LM)	Pipe C. Crew#2	18d	08-Feb-15	01-Mar-15	0d
NHT4660	20 cm thick for first base course layer	B.C. Crew#2	12d	19-Feb-15	07-Mar-15	0d
NHT4670	20 cm thick for second base course layer	B.C. Crew#2	12d	02-Mar-15	17-Mar-15	0d
NHT4680	5cm asphalt binder course including prime coat	Asphalt Crew#1	2d	17-Mar-15	19-Mar-15	0d
NHT4690	construct curbstone after Saw cut the edge of asphalt binder course	Side walk Crew#2	8d	19-Mar-15	29-Mar-15	0d
NHT4700	Reinforced concrete side walks, ramps and stairs included 15 cm base course under side walk	Side walk Crew#2	7d	22-Mar-15	30-Mar-15	0d
Asphalt for SEG. A5+800 to 8+203 A & B			18d	19-Mar-15	09-Apr-15	8d
NHT4705	Milling	Asphalt Crew#1	7d	19-Mar-15	28-Mar-15	19d
NHT4708	5 cm Asphalt wearing course including prime and tack coats	Asphalt Crew#1	9d	30-Mar-15	09-Apr-15	0d
Detours (If any)			13d	06-Nov-14	24-Nov-14	113d
NHT4710	B.C 20 cm Detours		10d	06-Nov-14	19-Nov-14	113d
NHT4720	Wearing 5 cm Detour		3d	19-Nov-14	24-Nov-14	113d
Miscellaneous activities - If any as location is not determined yet			67d	18-Nov-14	18-Feb-15	50d
NHT4723	Concrete Class B300		21d	18-Nov-14	16-Dec-14	96d
NHT4750	Concrete pipe 400 mm		21d	02-Dec-14	03-Jan-15	85d
NHT4760	60 cm R.C. pipe		21d	16-Dec-14	17-Jan-15	75d
NHT4730	Topping		21d	14-Jan-15	12-Feb-15	50d
NHT4770	Manholes size 2.0x2.0m		21d	14-Jan-15	12-Feb-15	55d
NHT4790	curbstone edg beam		10d	21-Jan-15	04-Feb-15	61d
NHT4810	Stone Wall		21d	21-Jan-15	18-Feb-15	50d
NHT4812	curbstone Median		10d	28-Jan-15	11-Feb-15	56d
Final Mechanical connection			73d	20-Dec-14	24-Mar-15	0d
Safety			36d	20-Dec-14	08-Feb-15	0d
NHT4818	Confined Space Safety Test Group two	Pipeline. Crews	11d	20-Dec-14	05-Jan-15	21d
NHT4830	Confined Space Safety Test Group one	Pipeline. Crews	11d	24-Jan-15	08-Feb-15	0d
Mechanical			49d	05-Jan-15	09-Mar-15	0d



Level Of Effort | Actual Work | Early Bar | Critical Bar | Milestone | Summary

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APCO/ArCon CONSTRUCTION AND SERVICES

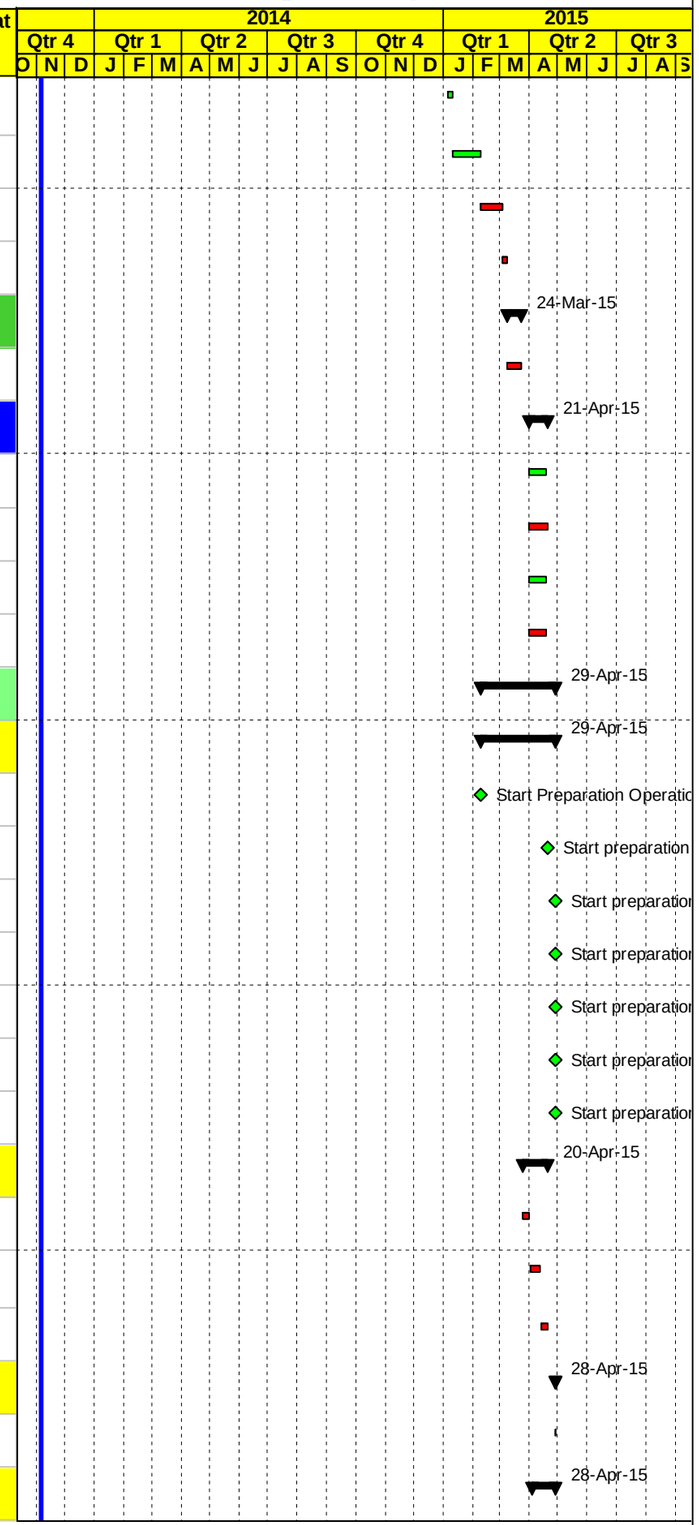
Construction Program

(Baseline)

TO# 15

Nahaleen Main Pipeline Project

Activity ID	Activity Name	Crew Name	Original Duration	Start	Finish	Total Float
NHT4815	Nahaleen Tank future connection (200 LM)	Pipeline. Crews	4d	05-Jan-15	11-Jan-15	21d
NHT4820	Mech. Work including install valves fittings, and flushing pipes Group Two	Pipeline. Crews	21d	11-Jan-15	09-Feb-15	21d
NHT4840	Mech. Work including install valves fittings, and flushing pipes Group one	Pipeline. Crews	21d	08-Feb-15	04-Mar-15	0d
NHT4854	Connection to makarot pipeline	Pipeline. Crews	3d	04-Mar-15	09-Mar-15	0d
Final Disinfection and Pressure Testing			14d	09-Mar-15	24-Mar-15	0d
NHT4850	Final Disinfection and Pressure Testing For main and dist.Pipeline	Pipeline. Crews	14d	09-Mar-15	24-Mar-15	0d
Road Finishing work for SEG. A , B, C & E			17d	31-Mar-15	21-Apr-15	0d
NHT4910	Grouted rip rap protection	Conc.D. Crew#1	15d	31-Mar-15	18-Apr-15	1d
NHT4900	Construct concrete ditch	Conc.D. Crew#1	17d	31-Mar-15	21-Apr-15	0d
NHT4890	Street Lighting	Street Lighting Crew#1	15d	31-Mar-15	19-Apr-15	0d
NHT4920	Guard rail,traffic signs , and Road furnishing	Road furnishing Crew	15d	01-Apr-15	19-Apr-15	0d
Post Construction Phase			66d	08-Feb-15	29-Apr-15	0d
Post Submittals			66d	08-Feb-15	29-Apr-15	0d
NHT4922	Start Preparation Operation and Maintenance Manuals		0d	08-Feb-15		37d
NHT4925	Start preparation Warranties (to USAID)		0d	20-Apr-15		8d
NHT4930	Start preparation Final Acceptance Certificate		0d	29-Apr-15		0d
NHT4935	Start preparation Release of liens and waiver of debts and claims against the government		0d	29-Apr-15		0d
NHT4940	Start preparation Final payment		0d	29-Apr-15		0d
NHT4945	Start preparation Final Report		0d	29-Apr-15		0d
NHT4955	Start preparation Clearance certificate from local entities/ Authorities involved		0d	29-Apr-15		0d
Start up, Training and commissioning			22d	25-Mar-15	20-Apr-15	0d
NHT4965	Pre commissioning		7d	25-Mar-15	01-Apr-15	0d
NHT5005	Commissioning		8d	02-Apr-15	11-Apr-15	0d
NHT5015	Training		7d	13-Apr-15	20-Apr-15	0d
Demobilization			1d	28-Apr-15	28-Apr-15	0d
NHT4975	Start Demobilization		1d	28-Apr-15	28-Apr-15	0d
Post Construction activities			21d	04-Apr-15	28-Apr-15	0d



Level Of Effort | Actual Work | Early Bar | Critical Bar | Milestone | Summary

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APCO/ArCon CONSTRUCTION AND SERVICES

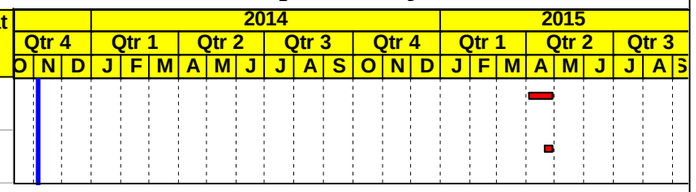
Construction Program

(Baseline)

TO# 15

Nahaleen Main Pipeline Project

Activity ID	Activity Name	Crew Name	Original Duration	Start	Finish	Total Float
NHT4995	Start preparation as-built drawings		21d	04-Apr-15	28-Apr-15	0d
NHT4985	Walk Through & Punch List		8d	20-Apr-15	28-Apr-15	0d



Level Of Effort | Actual Work | Early Bar | Critical Bar | Milestone | Summary

Date	Revision	Checked	Approved
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11 Schedule for manpower.

APCO/ArCon CONSTRUCTION AND SERVICES

Man Power

TO# 15

Nahaleen Main Pipeline Project

Activity ID	Activity Name	Budgeted Units	Budgeted Units	2014															2015				
				Qtr 4			Qtr 1			Qtr 2			Qtr 3			Qtr 4			Qtr 1			Qtr 2	
				ct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Total		21930d			124d	137d	124d	199d	1840d	2463d	1910d	2176d	1698d	1511d	1272d	1837d	2069d	898d	1027d	950d	819d	877d	
Resource ID Name: Resources	**Resources**	21930d			124d	137d	124d	199d	1840d	2463d	1910d	2176d	1698d	1511d	1272d	1837d	2069d	898d	1027d	950d	819d	877d	
Resource ID Name: TO#15	**Nahaleen**	21930d			124d	137d	124d	199d	1840d	2463d	1910d	2176d	1698d	1511d	1272d	1837d	2069d	898d	1027d	950d	819d	877d	
Resource ID Name: NHT-TO#16	**APCO/ArCon On Site Staff**	2509d			103d	114d	103d	124d	164d	157d	157d	161d	94d	164d	164d	138d	151d	138d	132d	145d	164d	136d	
Resource ID Name: NHT-MP01	**Task Order Manager**	429d			21d	23d	21d	24d	27d	26d	26d	27d	16d	27d	27d	23d	25d	23d	22d	24d	27d	24d	
Resource ID Name: NHT-MP02	**Project Quality Control Manager**	429d			21d	23d	21d	24d	27d	26d	26d	27d	16d	27d	27d	23d	25d	23d	22d	24d	27d	24d	
Resource ID Name: NHT-MP03	**Safety and Environmental Compliance Officer**	429d			21d	23d	21d	24d	27d	26d	26d	27d	16d	27d	27d	23d	25d	23d	22d	24d	27d	24d	
Resource ID Name: NHT-MP04	**Certified Welding Inspector**	364d						5d	29d	28d	28d	29d	17d	29d	29d	25d	27d	25d	23d	26d	29d	17d	
Resource ID Name: NHT-MP05	**Project Engineer**	429d			21d	23d	21d	24d	27d	26d	26d	27d	16d	27d	27d	23d	25d	23d	22d	24d	27d	24d	
Resource ID Name: NHT-MP06	**Office Engineer**	429d			21d	23d	21d	24d	27d	26d	26d	27d	16d	27d	27d	23d	25d	23d	22d	24d	27d	24d	
Resource ID Name: NHT-Man power	**Man Power**	19422d			21d	23d	21d	75d	1676d	2306d	1753d	2015d	1603d	1347d	1109d	1699d	1918d	760d	895d	805d	656d	741d	
Resource ID Name: NHT-MP1	**Land Surveyor**	793d			21d	23d	21d	28d	56d	54d	54d	55d	32d	56d	56d	47d	52d	47d	45d	50d	56d	41d	
Resource ID Name: NHT-MP2	**Project Manager Sub Contractor**	364d						5d	29d	28d	28d	29d	17d	29d	29d	25d	27d	25d	23d	26d	29d	17d	
Resource ID Name: NHT-MP3	**Foreman**	1458d						18d	116d	112d	112d	115d	67d	116d	116d	98d	107d	98d	94d	103d	116d	67d	
Resource ID Name: NHT-MP4	**Driver/Operator**	5366d						15d	475d	629d	451d	604d	527d	359d	370d	538d	526d	268d	164d	129d	118d	191d	
Resource ID Name: NHT-MP5	**Carpenter**	1431d							190d	239d	143d	90d	64d	125d	129d	142d	121d	41d	53d	41d	19d	35d	
Resource ID Name: NHT-MP6	**Steel Fixer**	1043d							160d	239d	140d	59d	49d	81d	70d	80d	72d	21d	26d	20d	8d	17d	
Resource ID Name: NHT-MP7	**Steel Welder/Pipe Fitter**	2558d							87d	179d	255d	371d	295d	173d	20d	204d	386d	14d	230d	242d	103d		
Resource ID Name: NHT-MP8	**Technician or Skilled Labor**	3205d						4d	281d	413d	285d	346d	276d	204d	159d	282d	313d	123d	129d	98d	103d	187d	
Resource ID Name: NHT-MP9	**Unskilled Labor / Flag Man**	3205d						4d	281d	413d	285d	346d	276d	204d	159d	282d	313d	123d	129d	98d	103d	187d	

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12 Over View Bar chart.

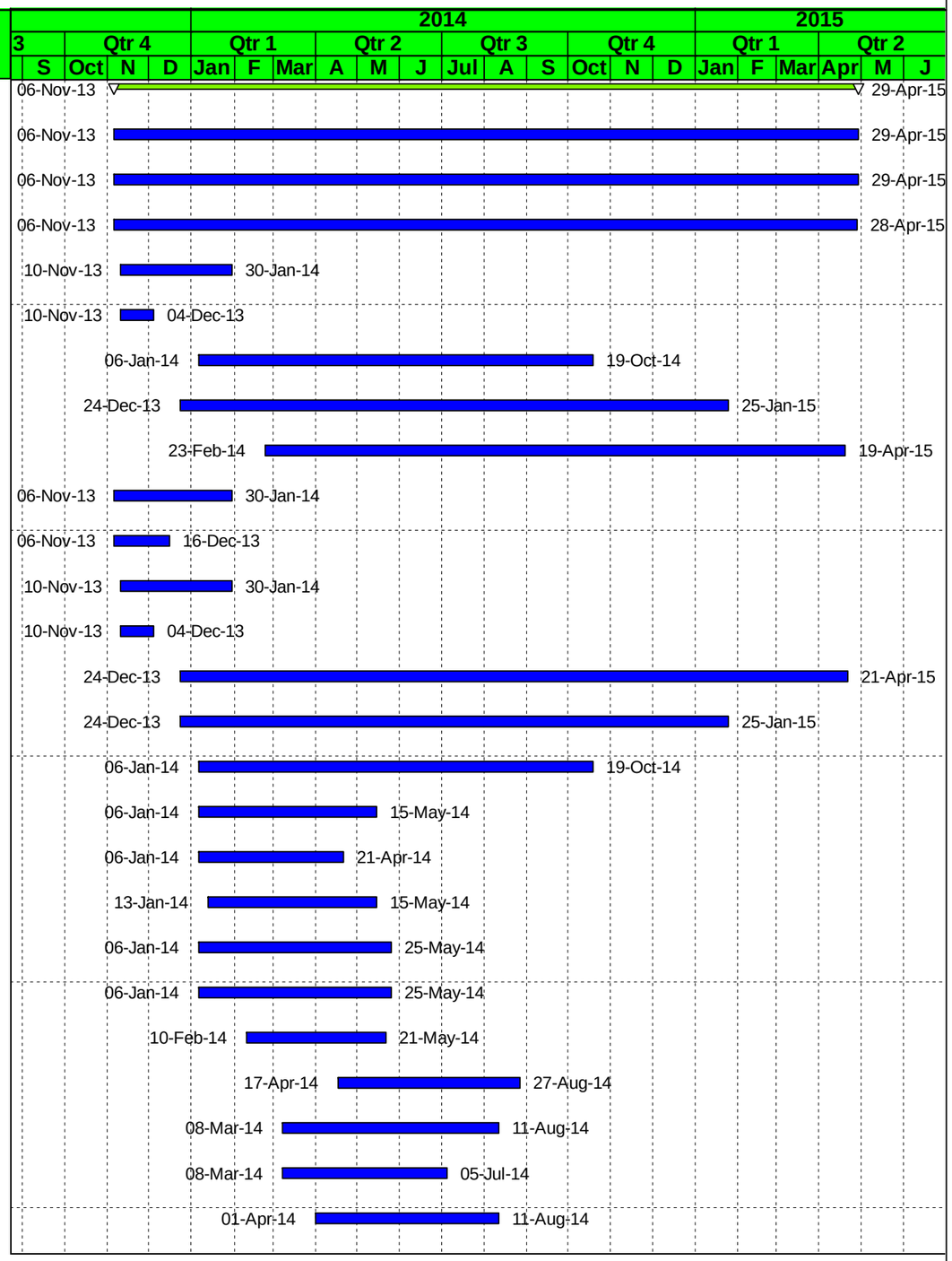
APCO/ArCon CONSTRUCTION AND SERVICES

Project Overview Bar Chart

Nahaleen Main Pipeline Project

TO# 15

WBS Name	Start	Finish
Nahaleen Main Pipeline Project	06-Nov-13	29-Apr-15
Milestones	06-Nov-13	29-Apr-15
General Milestones	06-Nov-13	29-Apr-15
Task order Duration	06-Nov-13	28-Apr-15
Pre Construction Milestones	10-Nov-13	30-Jan-14
Mobilization Milestones	10-Nov-13	04-Dec-13
Shop Drawing Milestones	06-Jan-14	19-Oct-14
Material Milestones	24-Dec-13	25-Jan-15
Construction Milestones	23-Feb-14	19-Apr-15
Pre Construction Phase	06-Nov-13	30-Jan-14
Conformed Drawings and Coordination	06-Nov-13	16-Dec-13
Pre Construction Submittals	10-Nov-13	30-Jan-14
Mobilization	10-Nov-13	04-Dec-13
Construction Phase	24-Dec-13	21-Apr-15
Construction Submittals	24-Dec-13	25-Jan-15
Shop Drawing Submittals	06-Jan-14	19-Oct-14
Plan Profile and Cross Sections	06-Jan-14	15-May-14
Plan Profile and Cross Sections for Group One	06-Jan-14	21-Apr-14
Plan Profile and Cross Sections for Group Two	13-Jan-14	15-May-14
Waterline	06-Jan-14	25-May-14
Waterline for Group One	06-Jan-14	25-May-14
Waterline for Group Two	10-Feb-14	21-May-14
House connection	17-Apr-14	27-Aug-14
Valves	08-Mar-14	11-Aug-14
Civil Chambers	08-Mar-14	05-Jul-14
Mechanical	01-Apr-14	11-Aug-14



All Projects
Summary
WBS Elements below Project

Date	Revision	Checked	Approved
05-Mar-14			

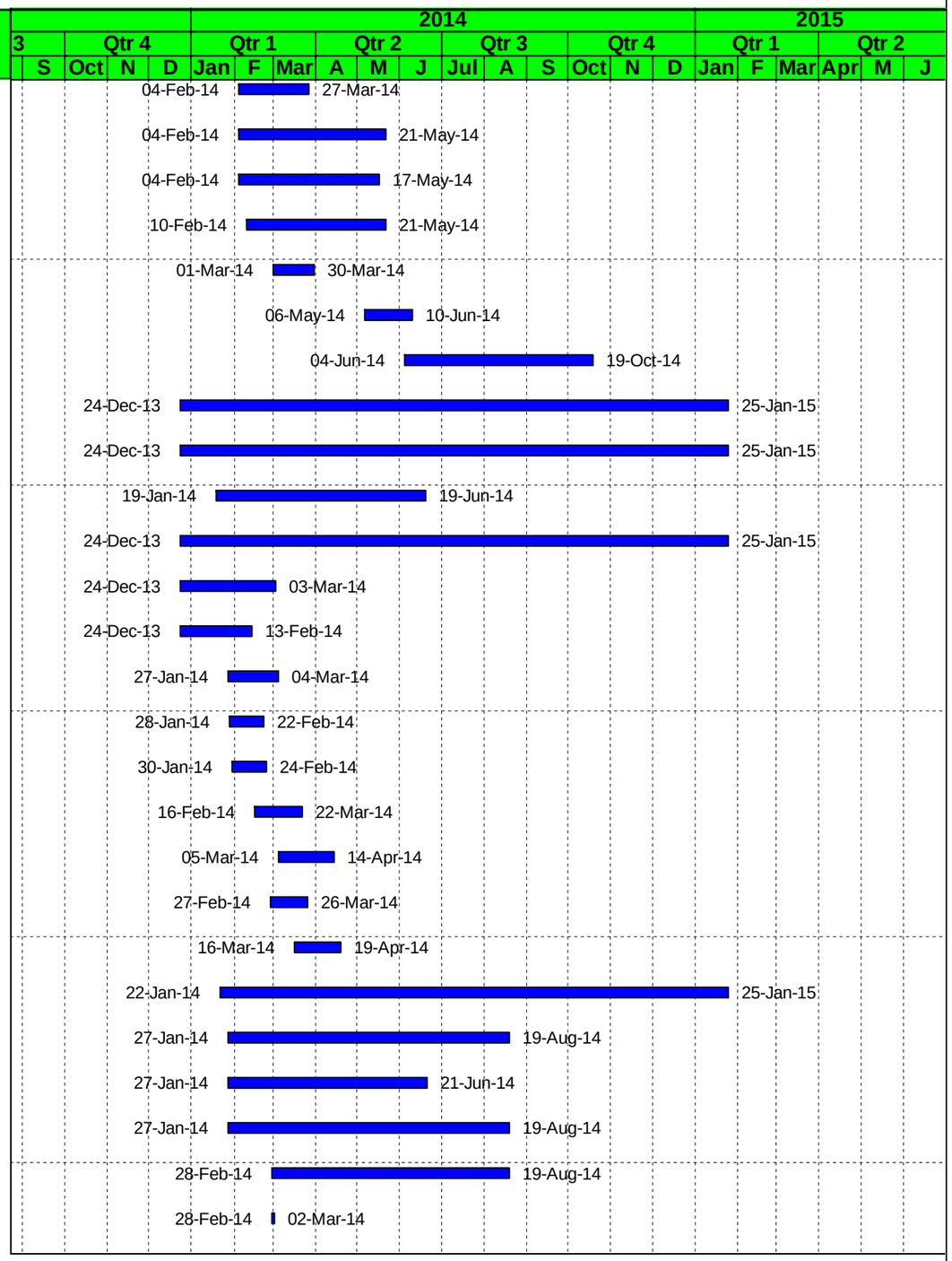
APCO/ArCon CONSTRUCTION AND SERVICES

Project Overview Bar Chart

Nahaleen Main Pipeline Project

TO# 15

WBS Name	Start	Finish
Concrete walls	04-Feb-14	27-Mar-14
Pipe and Box Culverts	04-Feb-14	21-May-14
Pipe and Box Culverts for Group One	04-Feb-14	17-May-14
Pipe and Box Culverts for Group Two	10-Feb-14	21-May-14
Stone Walls	01-Mar-14	30-Mar-14
Concrete curbstone and side walk	06-May-14	10-Jun-14
Others	04-Jun-14	19-Oct-14
Material Submittals	24-Dec-13	25-Jan-15
Material Submittals including Manufacturers Qualifications , Shop Test, Product Data	24-Dec-13	25-Jan-15
Material Submittals Roads	19-Jan-14	19-Jun-14
Material Submittals Pipelines including Hydraulic calculation and wiring diagrams, labeling s	24-Dec-13	25-Jan-15
Pipes	24-Dec-13	03-Mar-14
Fittings	24-Dec-13	13-Feb-14
Gate Valves	27-Jan-14	04-Mar-14
Butterfly valves	28-Jan-14	22-Feb-14
Washout valve	30-Jan-14	24-Feb-14
Air relief valves and Pressure reducing valve	16-Feb-14	22-Mar-14
Water meters	05-Mar-14	14-Apr-14
Manholes and chambers	27-Feb-14	26-Mar-14
Control Valves	16-Mar-14	19-Apr-14
Others	22-Jan-14	25-Jan-15
Procurements	27-Jan-14	19-Aug-14
Order	27-Jan-14	21-Jun-14
Manufacturing	27-Jan-14	19-Aug-14
Delivery	28-Feb-14	19-Aug-14
Testing	28-Feb-14	02-Mar-14



All Projects
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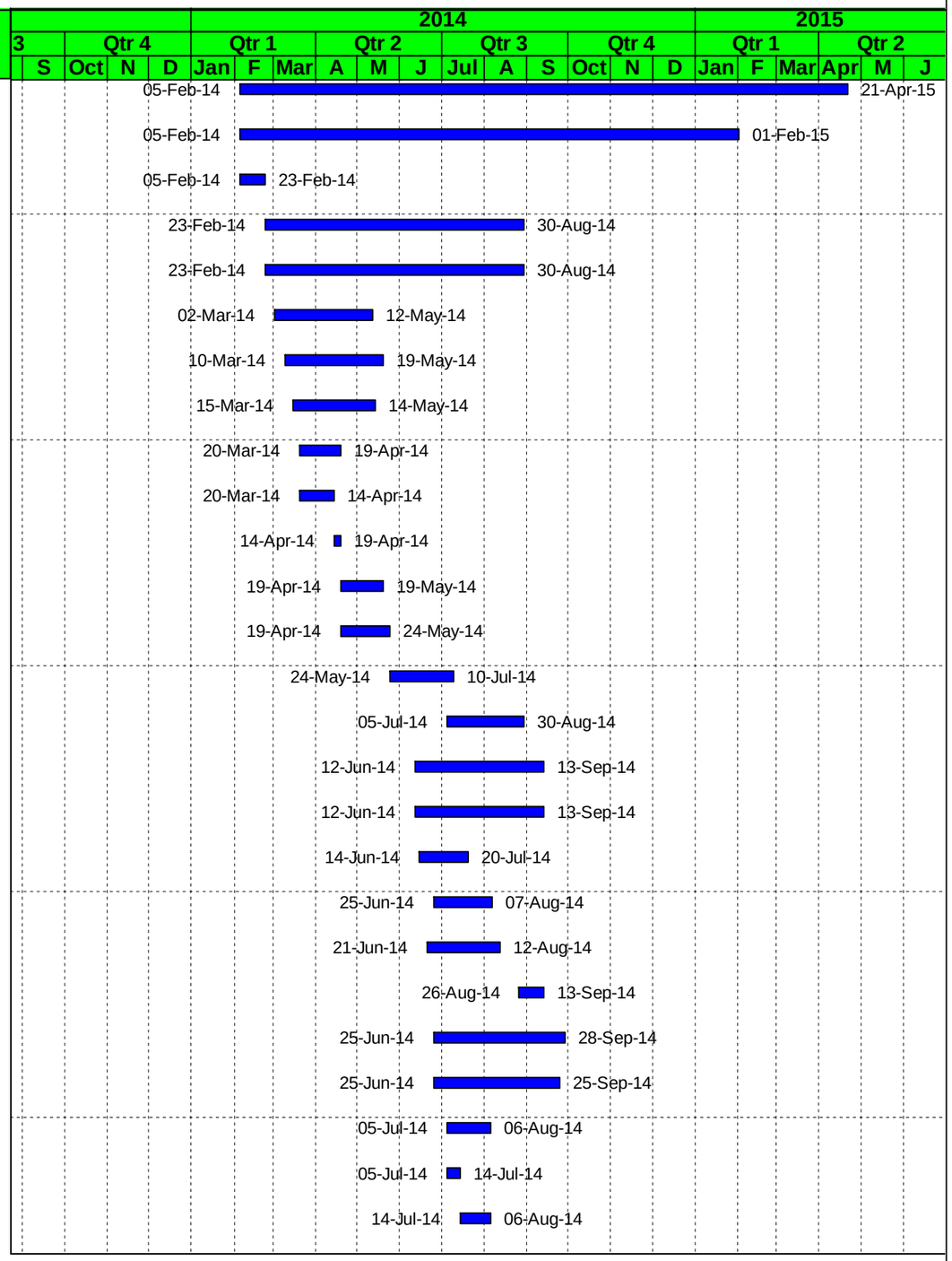
APCO ArCon
CONSTRUCTION AND SERVICES

Project Overview Bar Chart

Nahaleen Main Pipeline Project

TO# 15

WBS Name	Start	Finish
Construction Work	05-Feb-14	21-Apr-15
Group One from Sta.A0+000 to Sta.A3+320 Seg. C , E,Hussan & Battir Distribution pipes	05-Feb-14	01-Feb-15
Implementation traffic control and safety plan	05-Feb-14	23-Feb-14
SEG.A From Sta.A0+000 to Sta.A1+440 (Non-Residential area)	23-Feb-14	30-Aug-14
Safety and Excavation	23-Feb-14	30-Aug-14
Concrete Wall Crew one	02-Mar-14	12-May-14
Concrete Wall Crew two	10-Mar-14	19-May-14
Box Culvert	15-Mar-14	14-May-14
Pipe Installation	20-Mar-14	19-Apr-14
300 mm main pipeline	20-Mar-14	14-Apr-14
300 mm main pipeline with 75 mm dist. Pipe	14-Apr-14	19-Apr-14
Chamber work	19-Apr-14	19-May-14
Testing	19-Apr-14	24-May-14
Base course and Asphalt From Sta. A0+000 To A0+720	24-May-14	10-Jul-14
Base course ,Stone Wall and Asphalt From Sta. A0+720 To A1+440	05-Jul-14	30-Aug-14
SEG.A From Sta.A1+440- A2+190 (Residential area)	12-Jun-14	13-Sep-14
Safety and Excavation	12-Jun-14	13-Sep-14
Pipe Installation	14-Jun-14	20-Jul-14
Chamber work	25-Jun-14	07-Aug-14
Testing	21-Jun-14	12-Aug-14
Base course and Asphalt	26-Aug-14	13-Sep-14
SEG.A From Sta A2+190.to Sta. A3+320 (Non-Residential area)	25-Jun-14	28-Sep-14
Safety, Excavation and Box Culvert	25-Jun-14	25-Sep-14
Pipe Installation	05-Jul-14	06-Aug-14
300 mm main pipeline with 75 mm dist. Pipe	05-Jul-14	14-Jul-14
300 mm main pipeline with 50 mm dist. Pipe	14-Jul-14	06-Aug-14



All Projects
Summary
WBS Elements below Project

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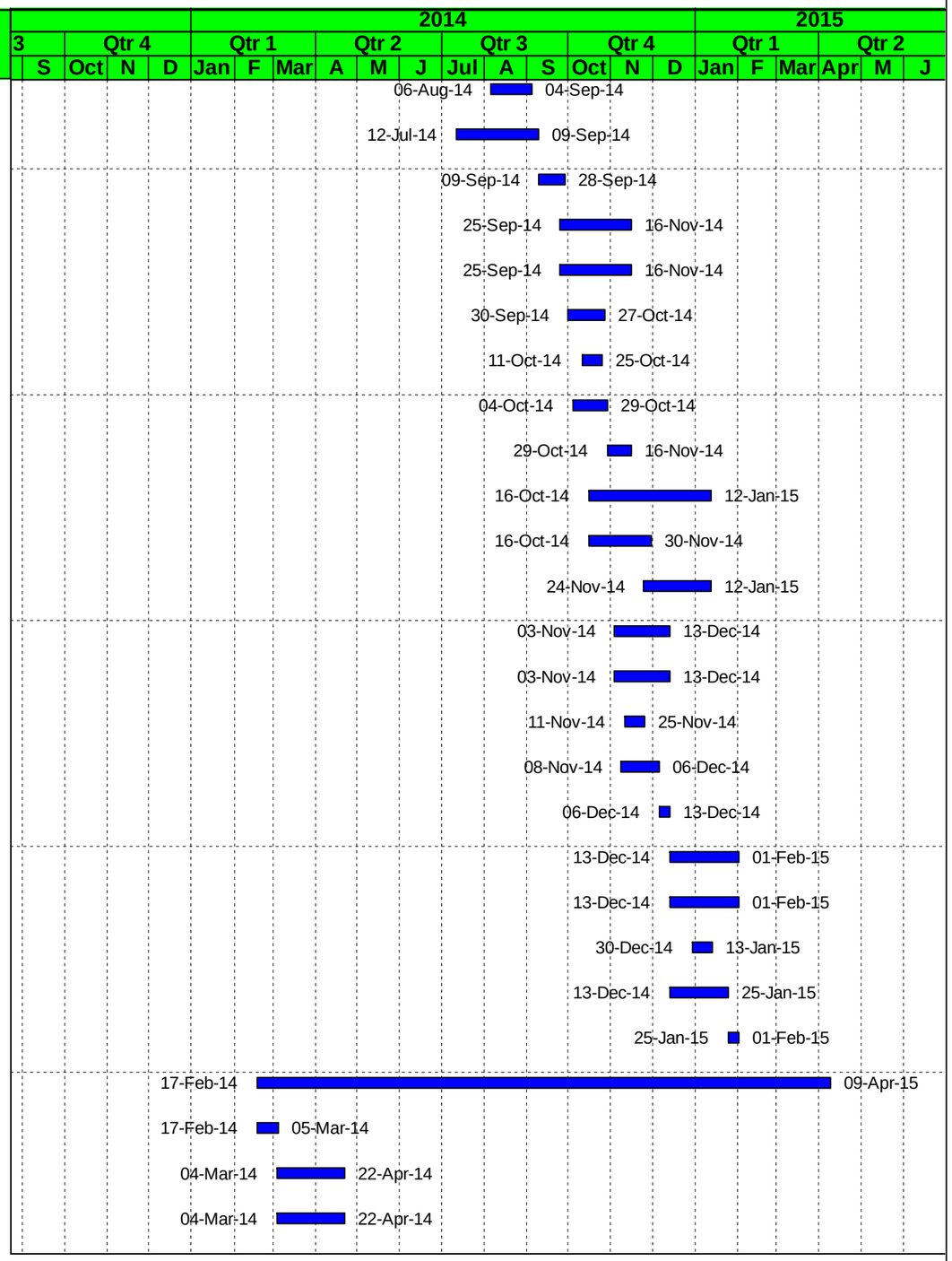
APCO/ArCon CONSTRUCTION AND SERVICES

Project Overview Bar Chart

Nahaleen Main Pipeline Project

TO# 15

WBS Name	Start	Finish
Chamber work	06-Aug-14	04-Sep-14
Testing	12-Jul-14	09-Sep-14
Base course and Asphalt	09-Sep-14	28-Sep-14
SEG.C From St.C0+000 -St.C0+330 (Residential area)	25-Sep-14	16-Nov-14
Safety and Excavation	25-Sep-14	16-Nov-14
Pipe Installation	30-Sep-14	27-Oct-14
Chamber work	11-Oct-14	25-Oct-14
Testing	04-Oct-14	29-Oct-14
Base course and Asphalt	29-Oct-14	16-Nov-14
SEG.E From Sta. E0+000 to Sta.E1+276	16-Oct-14	12-Jan-15
From Sta. E0+000 to Sta.E0+650	16-Oct-14	30-Nov-14
From Sta. E0+650 to Sta.E1+276	24-Nov-14	12-Jan-15
Hussan Distribution pipes	03-Nov-14	13-Dec-14
Safety and Pipe Installation	03-Nov-14	13-Dec-14
Chamber work	11-Nov-14	25-Nov-14
Testing	08-Nov-14	06-Dec-14
Asphalt	06-Dec-14	13-Dec-14
Battir Distribution pipes	13-Dec-14	01-Feb-15
Safety and Pipe Installation	13-Dec-14	01-Feb-15
Chamber work	30-Dec-14	13-Jan-15
Testing	13-Dec-14	25-Jan-15
Asphalt	25-Jan-15	01-Feb-15
Group Two Seg D , SEG.A Road From Sta. 3+320 to Sta. A8+203 and Seg. B	17-Feb-14	09-Apr-15
Implementation traffic control and safety plan	17-Feb-14	05-Mar-14
SEG.D From Sta.D0+518 to Sta.D0+000 (Non-Residential area)	04-Mar-14	22-Apr-14
Safety, Excavation and Concrete Works	04-Mar-14	22-Apr-14



All Projects
Summary
WBS Elements below Project

Date	Revision	Checked	Approved
05-Mar-14			

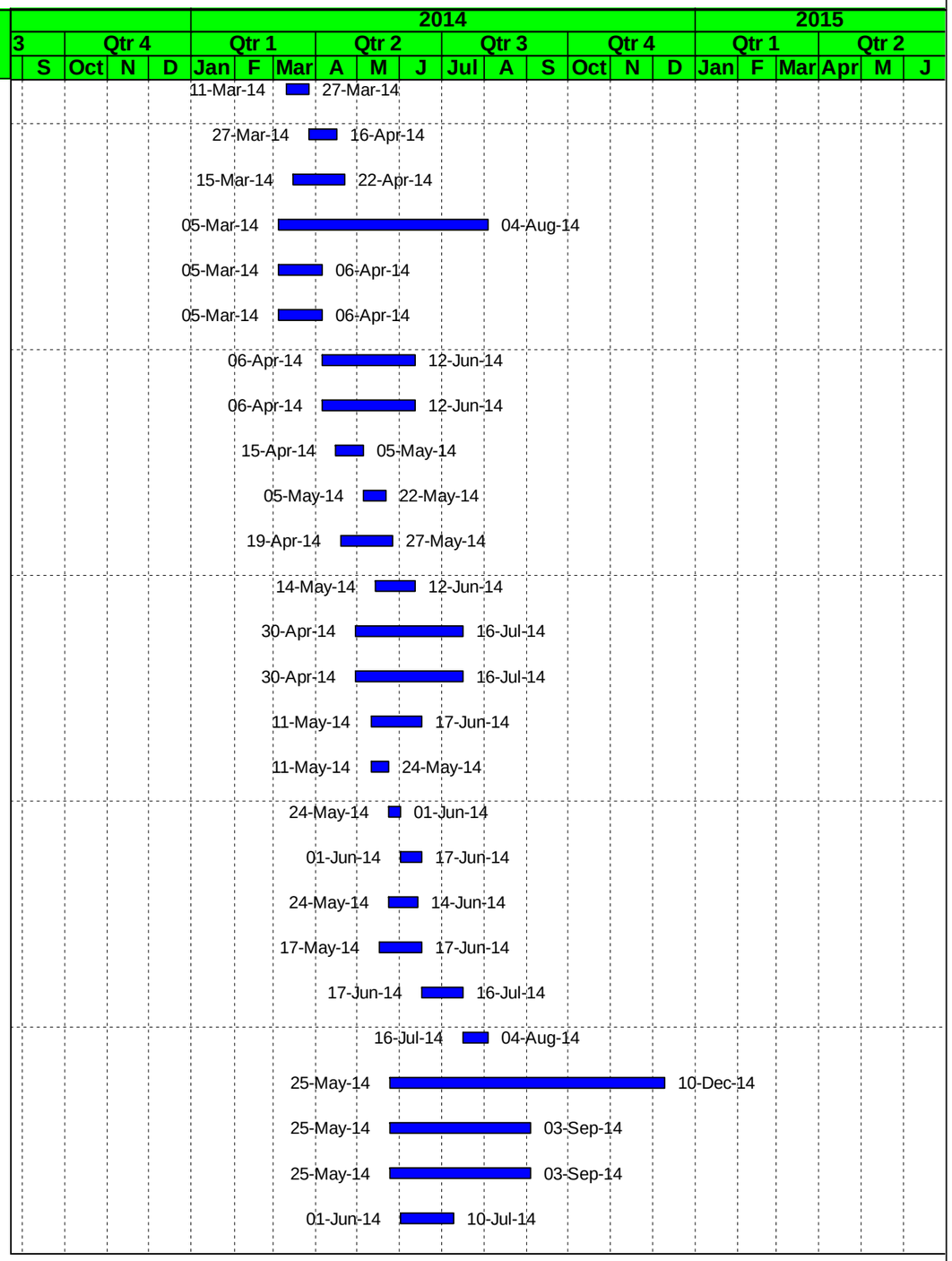
APCO/ArCon CONSTRUCTION AND SERVICES

Project Overview Bar Chart

Nahaleen Main Pipeline Project

TO# 15

WBS Name	Start	Finish
Pipe Installation	11-Mar-14	27-Mar-14
Chamber work	27-Mar-14	16-Apr-14
Testing	15-Mar-14	22-Apr-14
SEG.A From Sta.A3+320 to Sta.A5+800	05-Mar-14	04-Aug-14
SEG.A From Sta.A3+320 to Sta.A5+800 LHS (Widening and Milling)	05-Mar-14	06-Apr-14
Safety, Excavation, Culvert and Base course	05-Mar-14	06-Apr-14
SEG.A From Sta.A3+320 to Sta.A4+560 RHS (Widening and Milling)	06-Apr-14	12-Jun-14
Safety, Excavation, Culvert , concrete channel and Basecourse	06-Apr-14	12-Jun-14
Pipe Installation	15-Apr-14	05-May-14
Chamber work	05-May-14	22-May-14
Testing	19-Apr-14	27-May-14
Base course and Stone Wall	14-May-14	12-Jun-14
SEG.A From Sta.A4+560 to Sta.A5+800 RHS (Pipeline)	30-Apr-14	16-Jul-14
Safety, Excavation and Concrete Works	30-Apr-14	16-Jul-14
Pipe Installation	11-May-14	17-Jun-14
250 mm main pipeline	11-May-14	24-May-14
250 mm main pipeline with 50 mm dist. Pipe	24-May-14	01-Jun-14
House connection	01-Jun-14	17-Jun-14
Chamber work	24-May-14	14-Jun-14
Testing	17-May-14	17-Jun-14
Base course	17-Jun-14	16-Jul-14
SEG.A From Sta.A3+320 to Sta.A5+800 RHS & LHS (Asphalt -work)	16-Jul-14	04-Aug-14
SEG.A From Sta.A5+800 to Sta. 7+460	25-May-14	10-Dec-14
SEG.A From Sta.A5+800 to Sta. 6+630 RHS (Residential area)	25-May-14	03-Sep-14
Safety, Excavation, Pipe Culvert and storm system	25-May-14	03-Sep-14
Pipe Installation	01-Jun-14	10-Jul-14



All Projects
Summary
WBS Elements below Project

Date	Revision	Checked	Approved
05-Mar-14			

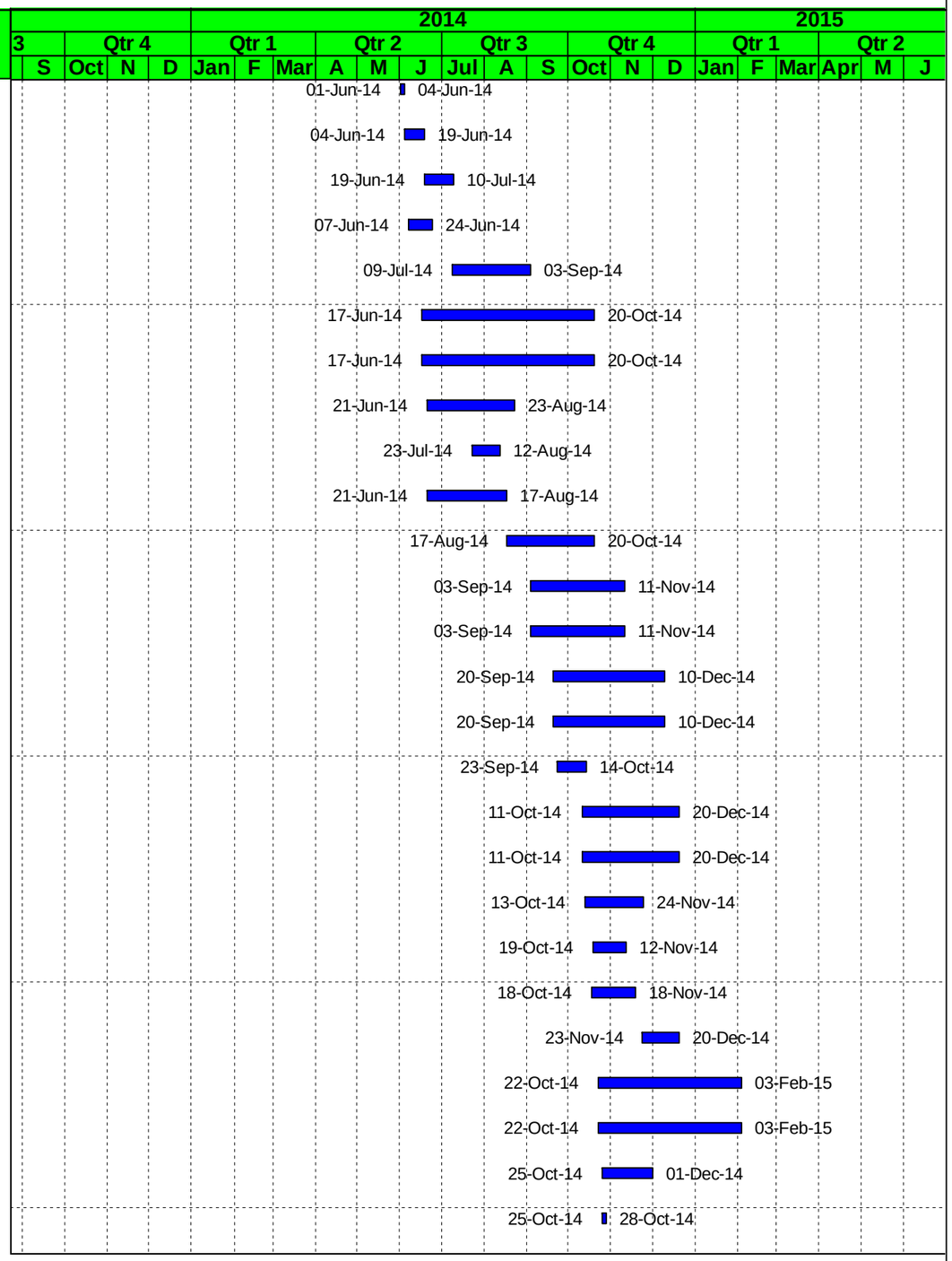
APCO/ArCon CONSTRUCTION AND SERVICES

Project Overview Bar Chart

Nahaleen Main Pipeline Project

TO# 15

WBS Name	Start	Finish
200 mm main pipeline with 100 mm dist. Pipe	01-Jun-14	04-Jun-14
200 mm main pipeline with 150 mm dist. Pipe	04-Jun-14	19-Jun-14
House connection	19-Jun-14	10-Jul-14
Testing	07-Jun-14	24-Jun-14
Base course Side walk and asphalt	09-Jul-14	03-Sep-14
SEG.A From Sta.A6+630 to Sta. 7+460 RHS (Residential area)	17-Jun-14	20-Oct-14
Safety, Excavation and storm system	17-Jun-14	20-Oct-14
Pipe Installation	21-Jun-14	23-Aug-14
Chamber work	23-Jul-14	12-Aug-14
Testing	21-Jun-14	17-Aug-14
Base course , street lighting ,Side walk ans asphalt	17-Aug-14	20-Oct-14
SEG.A From Sta.A5+800 to Sta. 6+630 LHS (Residantial area)	03-Sep-14	11-Nov-14
Safety, Excavation, Pipe Culvert, storm system and base course	03-Sep-14	11-Nov-14
SEG.A From Sta.A6+630 to Sta. 7+460 LHS (Residential area)	20-Sep-14	10-Dec-14
Safety, Excavation, Pipe Culvert, storm system, base course, Side walk and asphalt	20-Sep-14	10-Dec-14
Chamber work	23-Sep-14	14-Oct-14
SEG.A Road From Sta. 7+460 to Sta. A8+203	11-Oct-14	20-Dec-14
Safety and Excavation	11-Oct-14	20-Dec-14
Pipe Installation	13-Oct-14	24-Nov-14
Chamber Work	19-Oct-14	12-Nov-14
Testing	18-Oct-14	18-Nov-14
Base course and Asphalt	23-Nov-14	20-Dec-14
SEG.B From Sta. B0+000 to Sta. B0+985 RHS (Residential area)	22-Oct-14	03-Feb-15
Safety, Excavation and Storm system	22-Oct-14	03-Feb-15
Pipe Installation	25-Oct-14	01-Dec-14
100 mm main pipeline from	25-Oct-14	28-Oct-14



All Projects
Summary
WBS Elements below Project

Date	Revision	Checked	Approved
05-Mar-14			

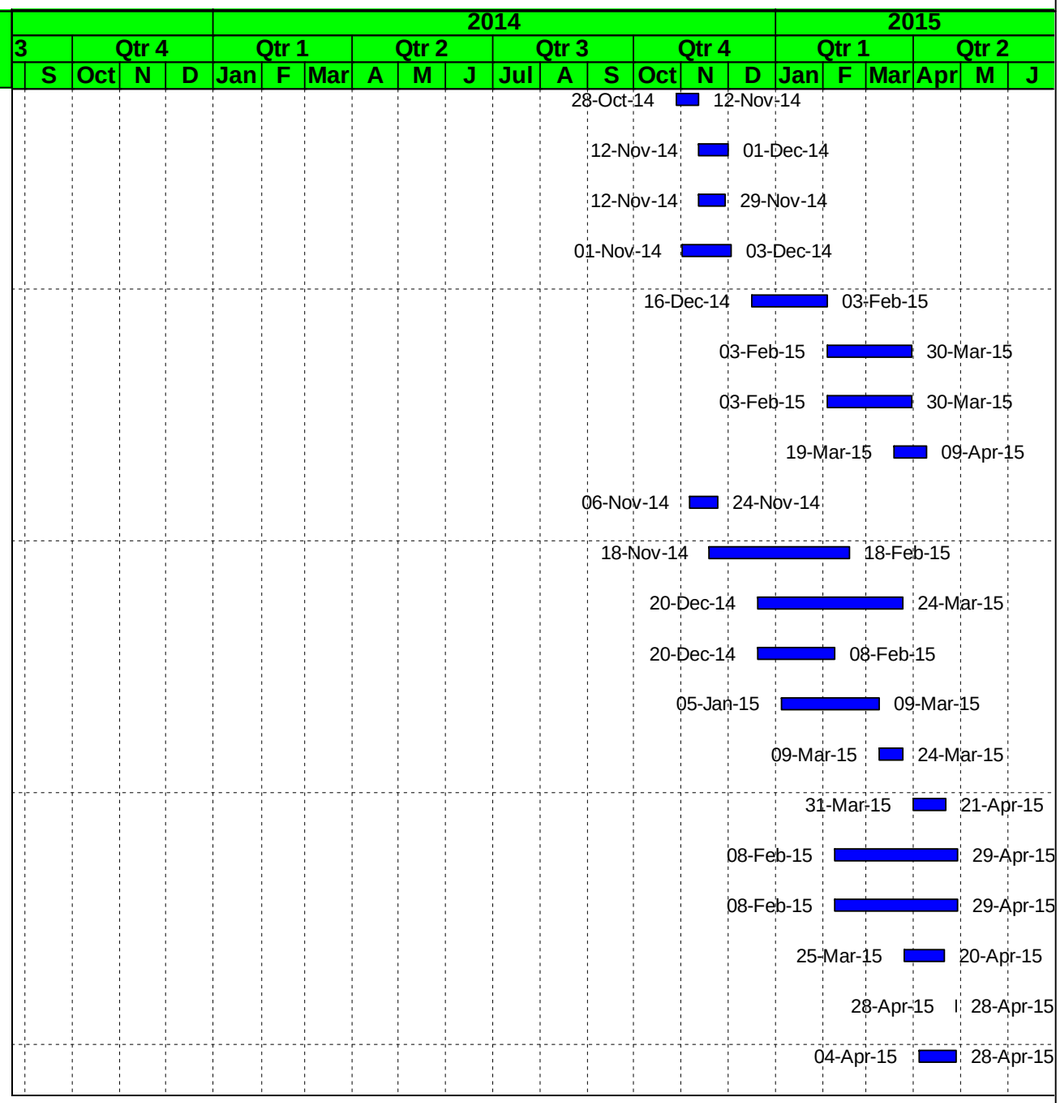
APCO/ArCon CONSTRUCTION AND SERVICES

Project Overview Bar Chart

Nahaleen Main Pipeline Project

TO# 15

WBS Name	Start	Finish
100 mm main pipeline with 100 mm dist. Pipe	28-Oct-14	12-Nov-14
House connection	12-Nov-14	01-Dec-14
Chamber work	12-Nov-14	29-Nov-14
Testing	01-Nov-14	03-Dec-14
Base course , street lighting , Side walk an asphalt	16-Dec-14	03-Feb-15
SEG.B From Sta. B0+000 to Sta. B0+985 LHS (Residential area)	03-Feb-15	30-Mar-15
Testing, Base course ,Side walk and Asphalt	03-Feb-15	30-Mar-15
Asphalt for SEG. A5+800 to 8+203 A & B	19-Mar-15	09-Apr-15
Detours (If any)	06-Nov-14	24-Nov-14
Miscellaneous activities - If any as location is not determined yet	18-Nov-14	18-Feb-15
Final Mechanical connection	20-Dec-14	24-Mar-15
Safety	20-Dec-14	08-Feb-15
Mechanical	05-Jan-15	09-Mar-15
Final Disinfection and Pressure Testing	09-Mar-15	24-Mar-15
Road Finishing work for SEG. A , B, C & E	31-Mar-15	21-Apr-15
Post Construction Phase	08-Feb-15	29-Apr-15
Post Submittals	08-Feb-15	29-Apr-15
Start up, Training and commissioning	25-Mar-15	20-Apr-15
Demobilization	28-Apr-15	28-Apr-15
Post Construction activities	04-Apr-15	28-Apr-15



All Projects
Summary
WBS Elements below Project

Date	Revision	Checked	Approved
05-Mar-14			

13 Combined resources for the construction crews, Manpower and equipments

Below Tables details the combined resources for the construction crews, Manpower and equipments that will be used in each road construction.

WORK ACTIVITY	PRIME CONTRACTOR / SUBCONTRACTOR	STATION LOCATION		CREW NAME OR NUMBER OF CREW	RESOURCES																																						
					MANPOWER									EQUIPMENT (ALL CREWS)																											PLANTS		
					FOREMAN	SURVEYOR	OPERATOR / DRIVER	CARPENTER	STEEL FIXER	STEEL WELDER	PIPE FITTER	TECHNICHEN OR SKILLED LABOR	UN SKILLED LABOR / FLAG MAN	SAFETY PATROL	SURVEY STATION	SAW CUT MACHINE	TRENCHER	EXCAVATOR C-330 / C-350	BACKHOE-JCB	CRANE	BOBCAT	WHEEL LOADER	DUMP TRUCK	GRADER	120/ OR ST. SMALL COMPACTOR	ST. LARGE ROLLER	ST. SMALL ROLLER	Jack Hummer/ Air Compressor	WATER TANK	WATER PUMP/ & WELD TESTING EQUIP.	CONCRETE MIXER & CONC.PUMP	SPRAYER TANK	FINISHER	PNEUMATIC ROLLER	WELDING MACHINE	DIGGING/ GUARD RAIL JACK HAMMER	MILLING MACHINE	PRESSURE TESTING APPARATUS	PAINTING MACHINE	CONCRETE PLANT	STONE CRUSHER	ASPHALT PLANT
Survey Works	APCO	Segments A, B, C, D and E		S. Crews-1		2						2			2																												
Shop Drawings		Segments A, B, C, D and E		Sh.D. Crew-1								4																															
Traffic, Control, Detour & Safety Measures	APCO / Subs	From A0+000	To A3+320. Seg C ,E & Hussan & Battir	T.C. Crew-1	1		2					2	2	1	1				1																							
		From A3+320	To A8+203, Seg. D & Seg. B	T.C. Crew-2								2	2																														
WATER PROJECT																																											
Water Goup- 01																																											
Trench excavation	Tarifi Company	Segment A from St. A0+000- To. A3+320, , Seg. C , Hussan & Battir Distribution pipes		T.Ex. Crew-1	1	1	15					1	1		1			1	1		1		3			1		1														
Bedding (crushed stone) and Backfilling				B.B. Crew-1								1	2												1																1	
Main and local distribution Pipes Installation and House Connections				St.P.Crew-1						1	1	1	1														1															
Civil and structural works for Valve Chambers				C.V. Crew-1				2	2			2	2							1										2				2					1		
Mechanical works for valves and connection chambers				M.V.Crews						1	1	1	1																												
Restoration, cleaning, washing, Hydraulic/Weld testing and disinfection.				R.T. Crew-1								2	2																1												
Water Group - 02																																											
Trench excavation		Segment A from St. A3+320 to A8+203 , Seg. D and Seg. B		T.Ex. Crew-1	1	1	19					1	2		1		1	1	1		1		3			2		1														
Bedding (crushed stone) / Backfilling				B.B. Crew-1								1	2												1																1	
Main and local distribution Pipes Installation and House connections				St.P.Crew-1						1	1	1	1																													
Civil and structural works for Valve Chambers				C.V. Crew-1				2	2			2	2							1										2				3					1		
Mechanical works for valves and connection chambers				M.V.Crews						1	1	1	1																												
Restoration, cleaning, washing, Hydraulic/Weld testing and disinfection.				R.T. Crew-1								1	1																1												
Asphalt reinstatement				1 Crew								3	3			1									1																	1

WORK ACTIVITY	PRIME CONTRACTOR / SUBCONTRACTOR	STATION LOCATION	CREW NAME OR NUMBER OF CREW	RESOURCES																																			
				MANPOWER									EQUIPMENT (ALL CREWS)																									PLANTS		
				FOREMAN	SURVEYOR	OPERATOR / DRIVER	CARPENTER	STEEL FIXER	STEEL WELDER	PIPE FITTER	TECHNICHEN OR SKILLED LABOR	UN SKILLED LABOR / FLAG MAN	SAFETY PATROL	SURVEY STATION	SAW CUT MACHINE	TRENCHER	EXCAVATOR C-330 / C-350	BACKHOE-JCB	CRANE	BOBCAT	WHEEL LOADER	DUMP TRUCK	GRADER	120/ OR ST. SMALL COMPACTOR	ST. LARGE ROLLER	ST. SMALL ROLLER	Jack Hummer/ Air Compressor	WATER TANK	WATER PUMP/ & WELD TESTING EQUIP.	CONCRETE MIXER & CONC.PUMP	SPRAYER TANK	FINISHER	PNEUMATIC ROLLER	WELDING MACHINE	DIGGING/ GUARD RAIL JACK HAMMER	MILLING MACHINE	PRESSURE TESTING APPARATUS	PAINTING MACHINE	CONCRETE PLANT	STONE CRUSHER	ASPHALT PLANT
ROAD PROJECT																																							
Road Group - 01																																							
Road Excavation including (Cut/Fill) up to finish sub grade level	Tarifi Company	**Segment A from St. A0+000- to A3+320, Seg. C, and Seg. E**	Ex .Crew-1								1	2					1											1												
Basecourse layers (first and second layers)			B.C Crew-1	1	1	12					1	2	1	1				1		1		5	1	1	1														1	
Road Group - 02																																							
Road Excavation including (Cut/Fill) up to finish sub grade level		**Segment A from St. A3+320 to A8+203 and Seg. B**	Ex .Crew-2								1	2		1			1																							
Basecourse layers			B.C Crew-2								1 1	2 2								1		5	1	1	1			1											1	
ASPHALT WORKS 5cm and 7 cm Asphalt layers			AS. Crew-1								10	5																			1	1	1							1
Asphalt Milling			M.AS. Crew-1	1	1	22					2	3	1		1			1		1								1								1				
ROAD FURNITURE'S AND STREET LIGHTING Galv. Steel Guard Rail and Steel Handrail Rail		**Entire project**	G.R Crew-1								2	2															1							1						
Thermoplastic paint			T.S Crew-1								3	3																									1			
Traffic Signs & Cat Eyes																														1										
Street Lighting			S.L Crew-1								3	6							1			1																		
600 mm and 400mm Storm drainage pipes Manholes, catch basin		**Refer details in sketch**	S.S Crew-1				3				6	6								1																				
Pipe Culverts Dia 40, 60, 80 and 100cm		**Refer details in sketch**	P.C Crews 1&2				4				2	4																												
Reinforced concrete Retaining walls (670 l.M)		**St. A0+129 to St. A1+422 See details in sketch**	C.R.W Crews1 &2				15	12			12	15					1																							
Reinf. Concrete Ditch		**St. A0+000 to St. A1+180 See details in sketch**	C.D Crew-1	2	1	19	3	6			4	8	1	1	1			1	1			2		2		4	1	1		4									1		
Concrete Box Culverts		**St. A0+590, A0+953, A1+356, ,A2+225 and A3+636**	B.Cul. Crew-1				3	3			3	4																												
Precast Concrete Curbstone		**Refer details in sketch**	1 Crew								5	5								1																				

S-CURVE TO12: Multi Roads Project in the South Area (II) (Primavera Format)

APCO/ArCon CONSTRUCTION AND SERVICES

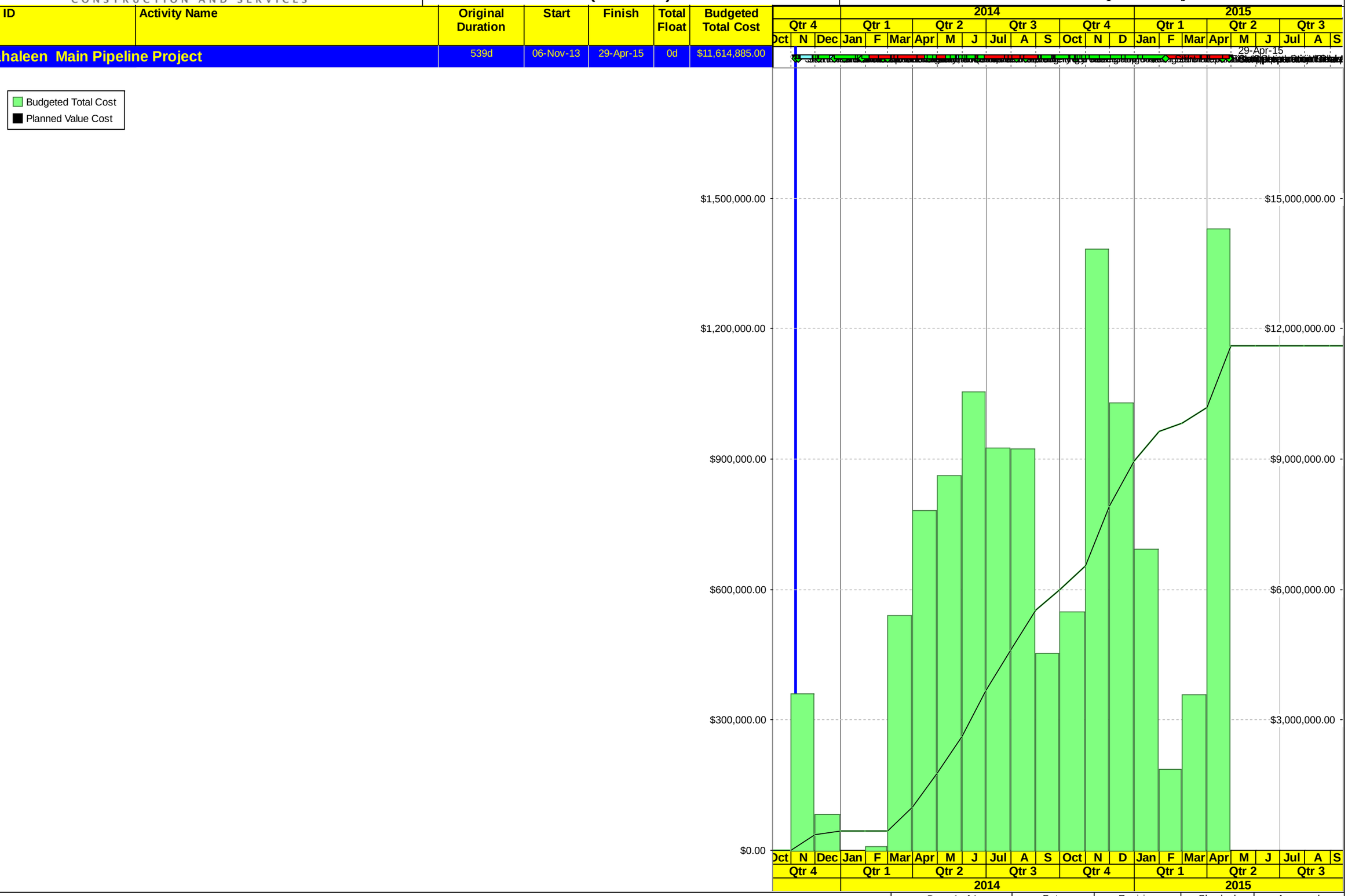
Construction Program

(Baseline)

TO# 15

Nahaleen Main Pipeline Project

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	Budgeted Total Cost
Nahaleen Main Pipeline Project		539d	06-Nov-13	29-Apr-15	0d	$11,614,885.00



Level Of Effort | Actual Work | Early Bar | Critical Bar | Milestone | Summary

Date	Revision	Checked	Approved
05-Mar-14			

15 S-CURVE TO12: Multi Roads Project in the South Area (II) (Excel Format)

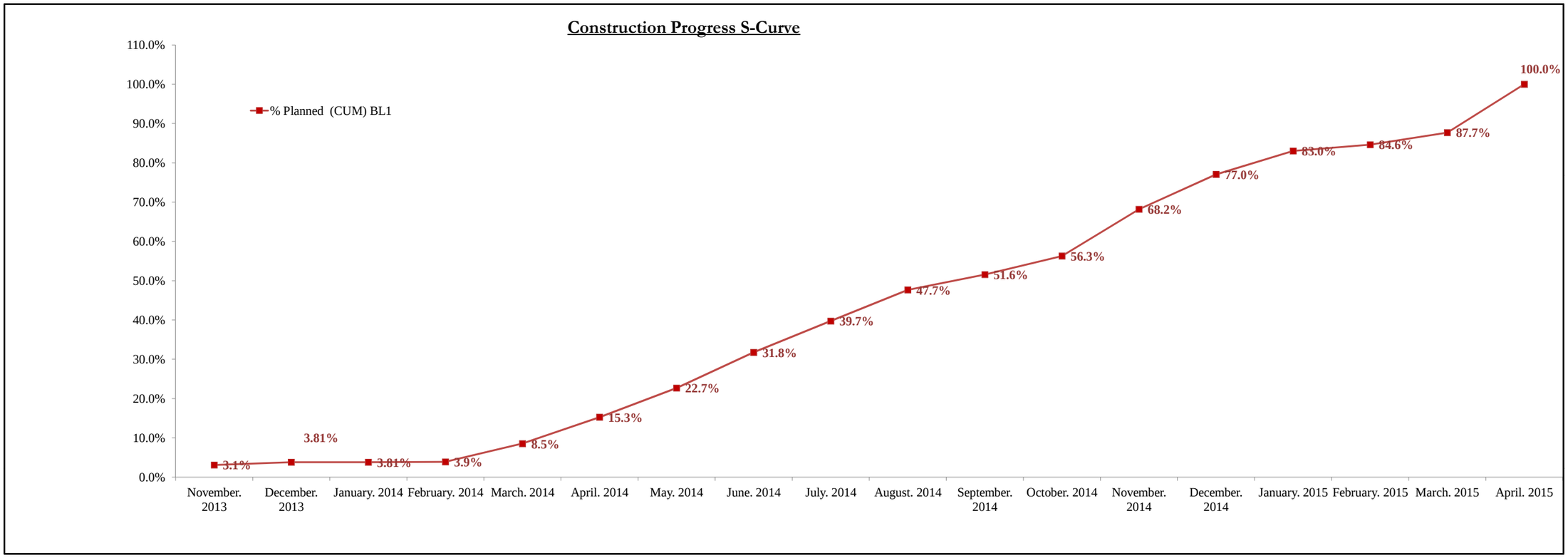
Construction Progress S-Curve

Total Contract Value $ 12,214,885

Total Contract Value (Day Work Not Included): $ 11,614,885

Project Duration : 540 Calender Days

NTP Date: 7-Nov-13

*** Day Work Not Included**

	November. 2013	December. 2013	January. 2014	February. 2014	March. 2014	April. 2014	May. 2014	June. 2014	July. 2014	August. 2014	September. 2014	October. 2014	November. 2014	December. 2014	January. 2015	February. 2015	March. 2015	April. 2015	TOTAL
Planned Value (Baseline1)	$ 360,336	$ 82,135		$ 9,408	$ 540,287	$ 780,466	$ 862,021	$ 1,054,284	$ 924,726	$ 922,757	$ 452,623	$ 547,975	$ 1,382,816	$ 1,028,935	$ 692,890	$ 186,458	$ 358,238	$ 1,428,527	$11,614,885
Planned Value (CUM)	$ 360,336	$ 442,472	$ 442,472	$ 451,880	$ 992,168	$ 1,772,634	$ 2,634,655	$ 3,688,939	$ 4,613,664	$ 5,536,422	$ 5,989,045	$ 6,537,020	$ 7,919,836	$ 8,948,771	$ 9,641,661	$ 9,828,119	$10,186,358	$ 11,614,885	
% Planned	3.1%	0.7%	0.00%	0.1%	4.7%	6.7%	7.4%	9.1%	8.0%	7.9%	3.9%	4.7%	11.9%	8.9%	6.0%	1.6%	3.1%	12.3%	**100%**
% Planned (CUM) BL1	3.1%	3.81%	3.81%	3.9%	8.5%	15.3%	22.7%	31.8%	39.7%	47.7%	51.6%	56.3%	68.2%	77.0%	83.0%	84.6%	87.7%	100.0%