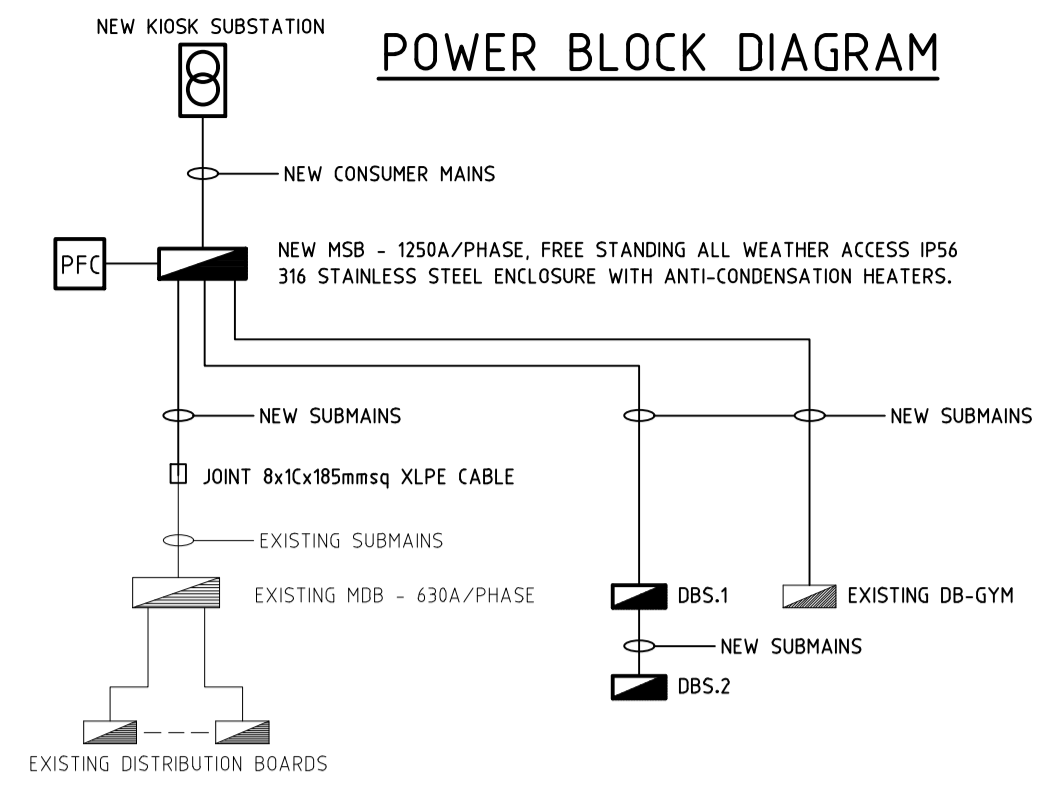
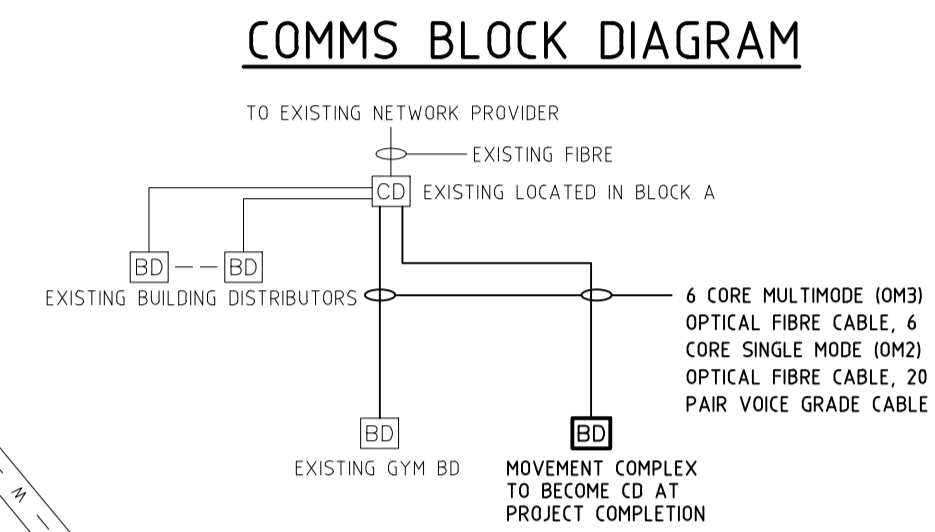


**POWER BLOCK DIAGRAM**



**COMMS BLOCK DIAGRAM**



**LEGEND**

- POWER PIT
- COMMUNICATIONS PIT
- NETWORK PROVIDER PIT (PIT TYPE SHOWN)
- POWER CONDUIT
- COMMS CONDUIT
- CAMPUS DISTRIBUTOR
- BUILDING DISTRIBUTOR
- DISTRIBUTION BOARD
- MAIN SWITCHBOARD
- POWER FACTOR CORRECTION UNIT
- MOTORISED GATE SUPPLY
- SINGLE DATA OUTLET
- LUMALÉD STREET LUX MINI SERIES LL RAZ-M30 WITH 6M POLE

**CONDUIT GROUPS**

- GROUP 1 - 2x150mm HDUPVC CONDUITS
- GROUP 2 - 8x100mm HDUPVC CONDUITS  
4x32mm HDUPVC CONDUITS
- GROUP 3 - 4x80mm HDUPVC CONDUITS  
4x32mm HDUPVC CONDUITS
- GROUP 4 - 2x80mm HDUPVC CONDUITS  
2x32mm HDUPVC CONDUITS
- GROUP 5 - 2x50mm HDUPVC CONDUITS  
2x32mm HDUPVC CONDUITS
- GROUP 6 - 1x32mm HDUPVC CONDUITS
  
- COMMS 1 - 1xP100mm TELSTRA/NBN CONDUIT
- COMMS 2 - 6x100mm COMMS CONDUIT
- COMMS 3 - 5x100mm COMMS CONDUIT
- COMMS 4 - 2x100mm COMMS CONDUIT
- COMMS 5 - 4x100mm COMMS CONDUIT
- COMMS 6 - 2x32mm COMMS CONDUIT

**NOTES**

1. DRAWINGS TO BE READ IN CONJUNCTION WITH ARCHITECTURAL AND OTHER SERVICES LAYOUTS, PHASE 1/MILESTONE DRAWINGS.
2. SECURITY UNDERGROUND CONDUITS AND PITS HAVE NOT BEEN SHOWN. SSU INSTALLER TO INSTALL IN COMPLIANCE WITH SSU DESIGN.
3. DESIGN OF COMMS CONDUITS TO BE FINALISED BY RELEVANT CONTRACTORS. DESIGN SHOWN ON THIS DRAWING IS FOR COORDINATION PURPOSES ONLY.
4. MINOR CONDUITS (LIGHTING WIRING) ARE NOT SHOWN ON THIS DRAWING. THEY ARE TO BE DETERMINED AND LOCATED ON SITE BY ELECTRICAL CONTRACTOR.
5. PROVIDE POWER AND COMMS FOR MOTORISED GATE.

SHARED SITE ACCESS  
AFTER HANDOVER OF NEW  
SERVICE ROAD EXTENSION

REV	BY	APP.	DATE
E	SP	PM	17.05.16
D	LM	PM	16.04.16
C	SP	PM	12.04.16
B	SP	PM	11.03.16
A	SP	MS	1.12.15
	BY	APP.	DATE

REVISION	DATE	BY	APP.
REVISED TENDER ISSUE	17.05.16	SP	PM
TENDER ISSUE	16.04.16	LM	PM
PRE-TENDER ISSUE	12.04.16	SP	PM
90% ISSUE	11.03.16	SP	PM
PRELIMINARY 50% ISSUE	1.12.15	SP	MS
REVISION DETAILS		BY	APP.

DRAWING STATUS	Reviewed By:	Signature	Date
Preliminary	MS	MS	1.12.15
For Information Only			
For Approval	PH	PH	11.03.16
For Tender	PH	PH	17.05.16
For Construction			

DESIGN BY:  
**ELECTRICAL PROJECTS AUSTRALIA P/L**  
(Pty Ltd / A.C.N. 053 112 502)

386 Maitland Road,  
P.O. Box 365  
MAYFIELD NSW 2304  
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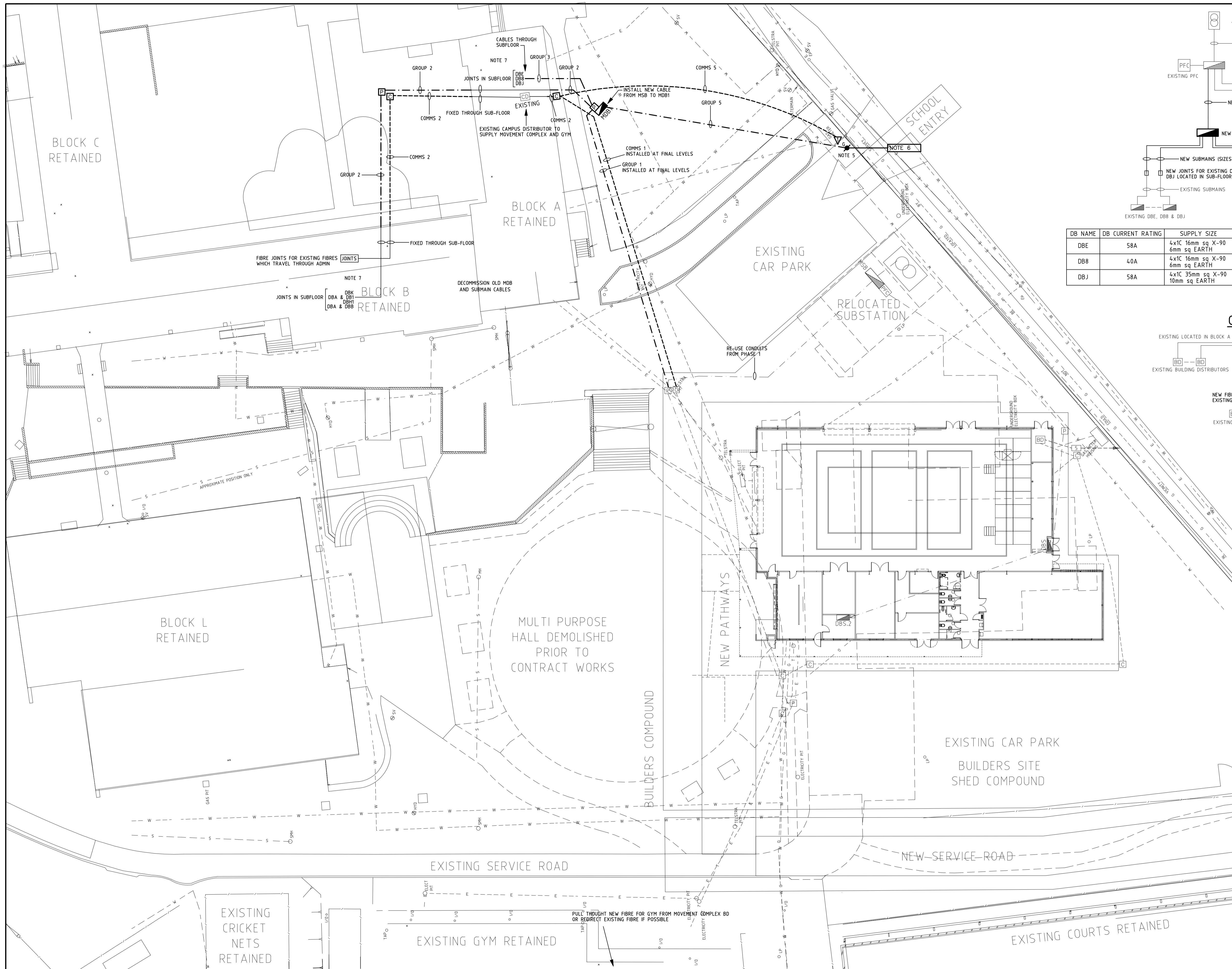
PROJECT:  
**HUNTER SPORTS HIGH SCHOOL  
REDEVELOPMENT**  
CONTRACT No.WS692136689

CLIENT:  
**NORTHROP CONSULTING ENGINEERS**

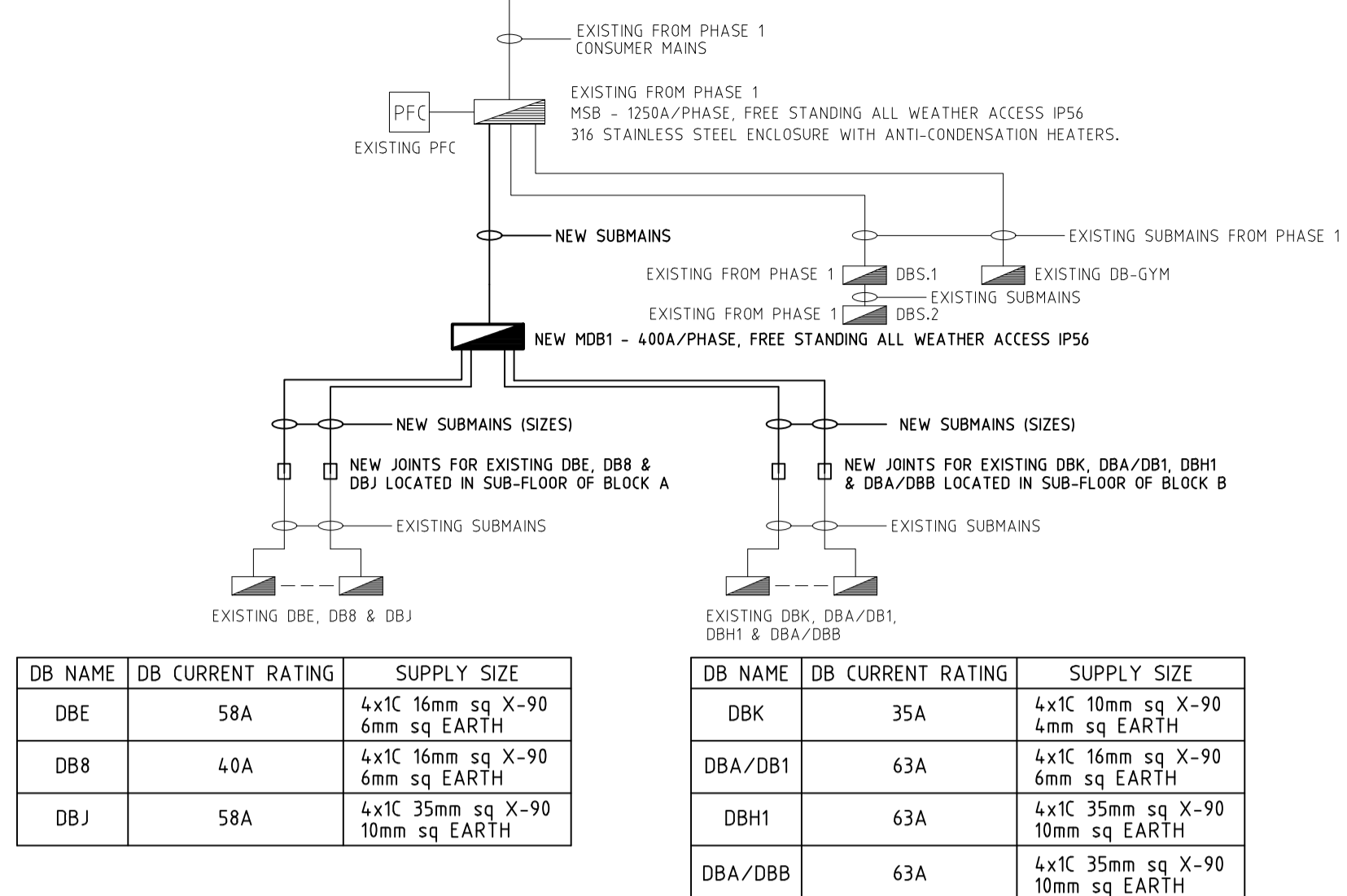
LOCATION:  
**PACIFIC HIGHWAY  
GATESHEAD NSW 2290**

DATE: 10.11.15  
SCALE: 1:250@A1  
PROJECT No. 15274  
DRAWING No. E17  
ISSUE: E

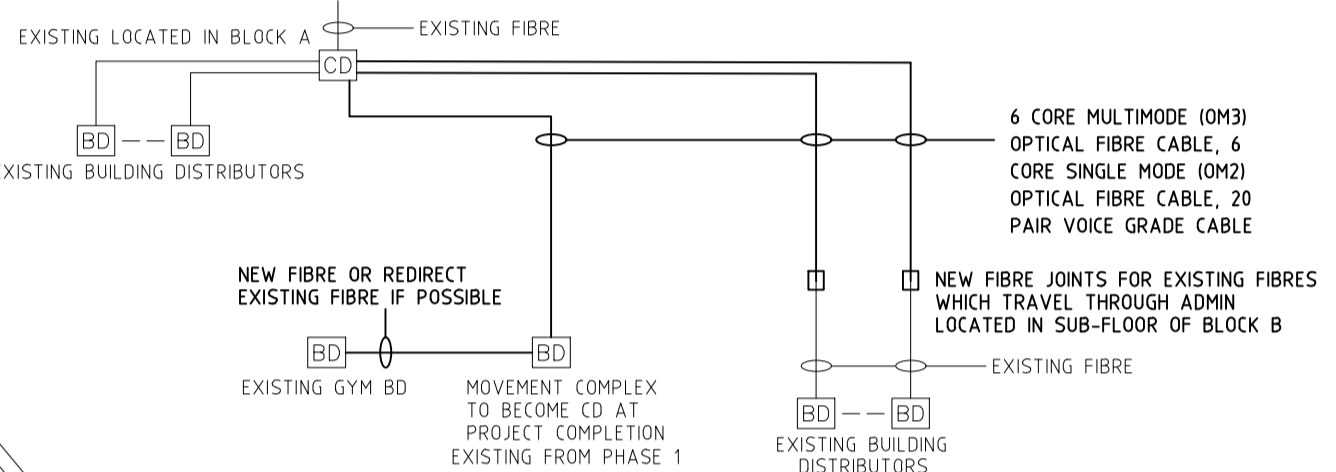
DRAWN: SP  
DESIGN: JC  
PHASE 1  
**ELECTRICAL & COMMS LAYOUT**



**POWER BLOCK DIAGRAM**



**COMMS BLOCK DIAGRAM**

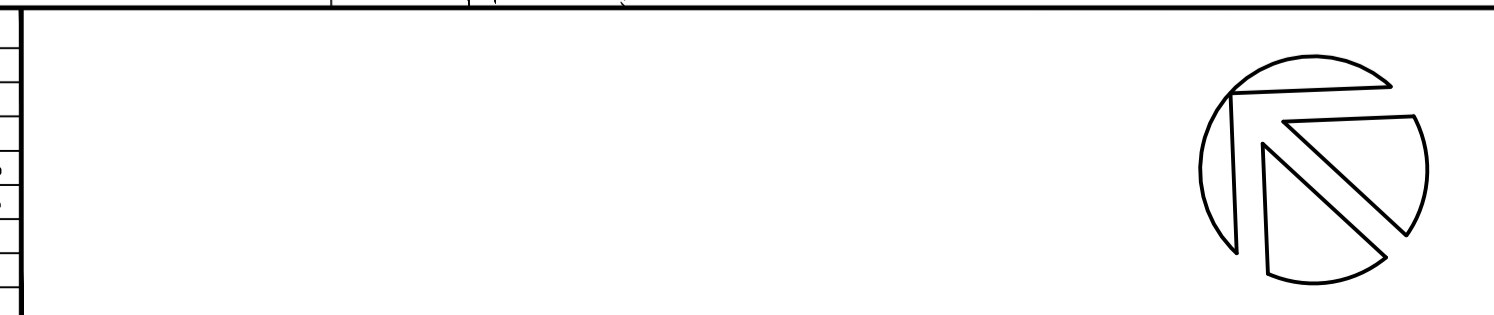


- LEGEND**
- POWER PIT
  - COMMUNICATIONS PIT
  - NETWORK PROVIDER PIT (PIT TYPE SHOWN)
  - POWER CONDUIT
  - COMMS CONDUIT
  - CAMPUS DISTRIBUTOR
  - BUILDING DISTRIBUTOR
  - DISTRIBUTION BOARD
  - MAIN SWITCHBOARD
  - MOTORISED GATE SUPPLY
  - SINGLE DATA OUTLET

- CONDUIT GROUPS**
- GROUP 1 - 4x100mm HDUPVC CONDUITS  
2x32mm HDUPVC CONDUITS
  - GROUP 2 - 4x80mm HDUPVC CONDUITS  
1x50mm HDUPVC CONDUIT
  - GROUP 3 - 3x80mm HDUPVC CONDUITS  
1x50mm HDUPVC CONDUIT  
2x32mm HDUPVC CONDUITS
  - GROUP 4 - 6x100mm HDUPVC CONDUITS  
7x80mm HDUPVC CONDUITS  
3x50mm HDUPVC CONDUITS
  - GROUP 5 - 1x32mm HDUPVC CONDUIT
  - COMMS 1 - 4x100mm COMMS CONDUIT
  - COMMS 2 - 6x100mm COMMS CONDUIT
  - COMMS 3 - 4x100mm COMMS CONDUIT
  - COMMS 4 - 2x100mm COMMS CONDUIT
  - COMMS 5 - 32mm COMMS CONDUIT

- NOTES**
1. DRAWINGS TO BE READ IN CONJUNCTION WITH ARCHITECTURAL AND OTHER SERVICES LAYOUTS, PHASE 1/MILESTONE DRAWINGS.
  2. SECURITY UNDERGROUND CONDUITS AND PITS HAVE NOT BEEN SHOWN. SSU INSTALLER TO INSTALL IN COMPLIANCE WITH SSU DESIGN.
  3. DESIGN OF COMMS CONDUITS TO BE FINALISED BY RELEVANT CONTRACTORS. DESIGN SHOWN ON THIS DRAWING IS FOR COORDINATION PURPOSES ONLY.
  4. MINOR CONDUITS (LIGHTING WIRING) ARE NOT SHOWN ON THIS DRAWING. THEY ARE TO BE DETERMINED AND LOCATED ON SITE BY ELECTRICAL CONTRACTOR.
  5. PROVIDE POWER AND COMMS FOR MOTORISED GATE.
  6. SUPPLY FROM LOCAL DB ON ELCB.
  7. ALL EXISTING SUB-CIRCUITS IN REMAINING PARTS OF BLOCK A AND BLOCK B TO BE REDIRECTED TO NEAREST LOCAL DB.

REV	DESCRIPTION	BY	APP.	DATE
E	REVISED TENDER ISSUE	SP	PM	17.05.16
D	TENDER ISSUE	LM	PM	14.04.16
C	PRE-TENDER ISSUE	SP	PM	12.04.16
B	90% ISSUE	SP	PM	11.03.16
A	PRELIMINARY 50% ISSUE	SP	MS	1.12.15
	REVISION DETAILS			



Completion of the Drawing Status is evidence that the design has been verified as conforming to the requirements of the Project Quality Plan.

DRAWING STATUS	Reviewed By	Signature	Date
Preliminary	MS	MS	1.12.15
For Information Only			
For Approval	PH	PH	11.03.16
For Tender	PH	PH	17.05.16
For Construction			

DESIGN BY:  
**ELECTRICAL PROJECTS AUSTRALIA P/L**  
 (Pty Ltd / A.C.N. 053 112 502)

386 Maitland Road,  
 P.O. Box 365  
 HAYFIELD NSW 2304  
 PHONE: (02) 4967 5999  
 FAX: (02) 4967 5933

PROJECT:  
**HUNTER SPORTS HIGH SCHOOL  
 REDEVELOPMENT**  
 CONTRACT No.WS692136689

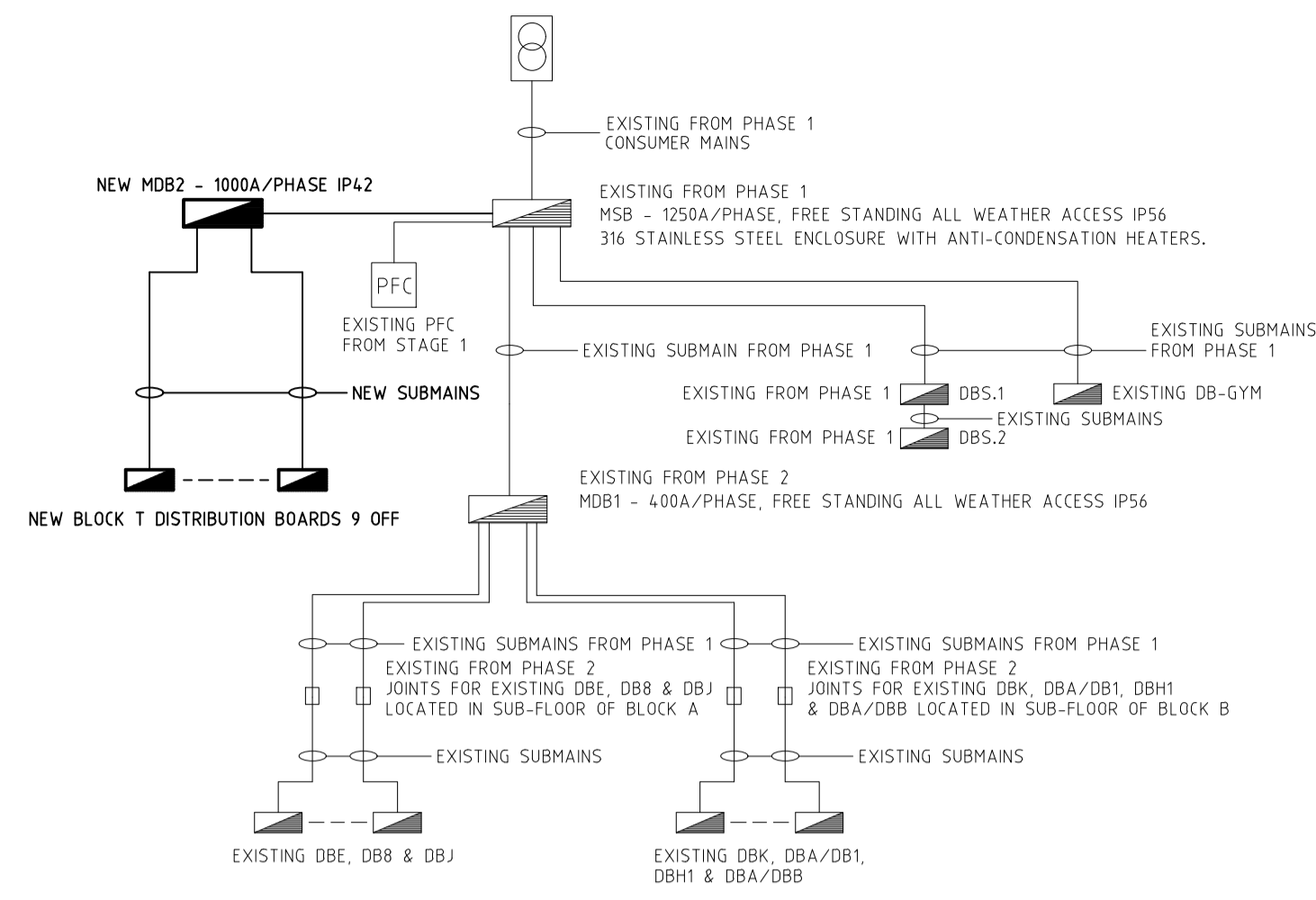
CLIENT:  
**NORTHROP CONSULTING ENGINEERS**

LOCATION:  
**PACIFIC HIGHWAY  
 GATESHEAD NSW 2290**

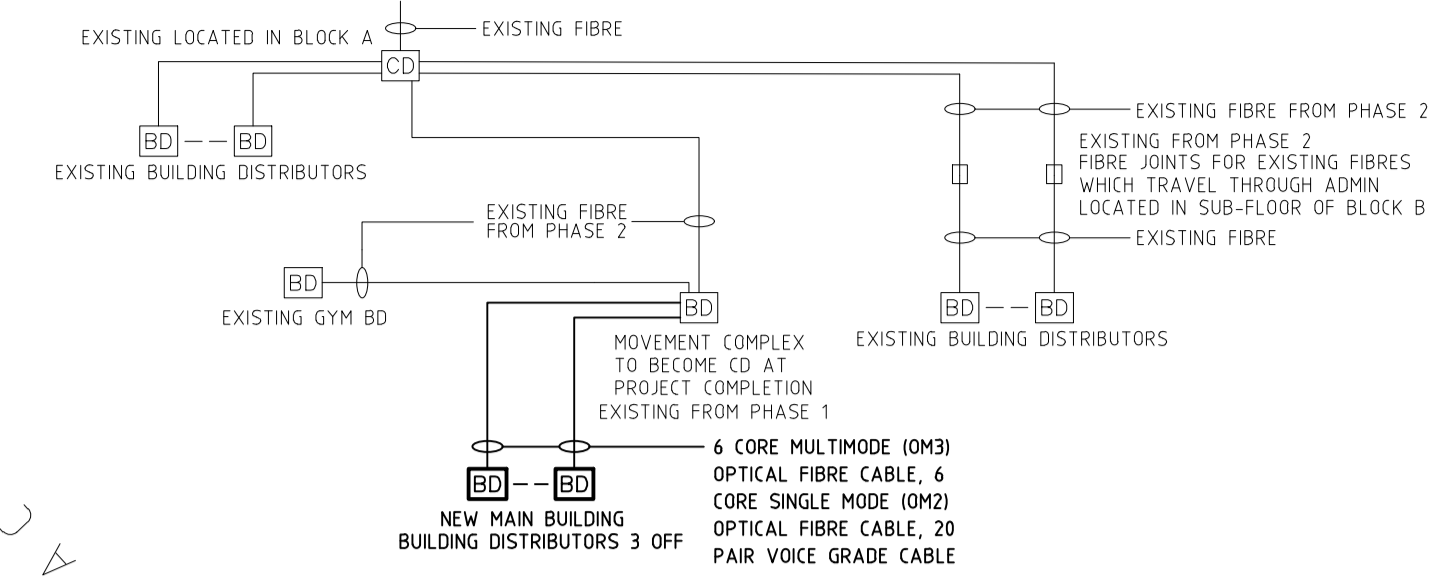
DRAWING:  
**PHASE 2  
 ELECTRICAL & COMMS LAYOUT**

DATE: 10.11.15  
 SCALE: 1:250@A1  
 PROJECT No. 15274  
 DRAWN: SP  
 DESIGN: JC  
 DRAWING No. E18  
 ISSUE: E

**POWER BLOCK DIAGRAM**



**COMMS BLOCK DIAGRAM**



**NOTES**

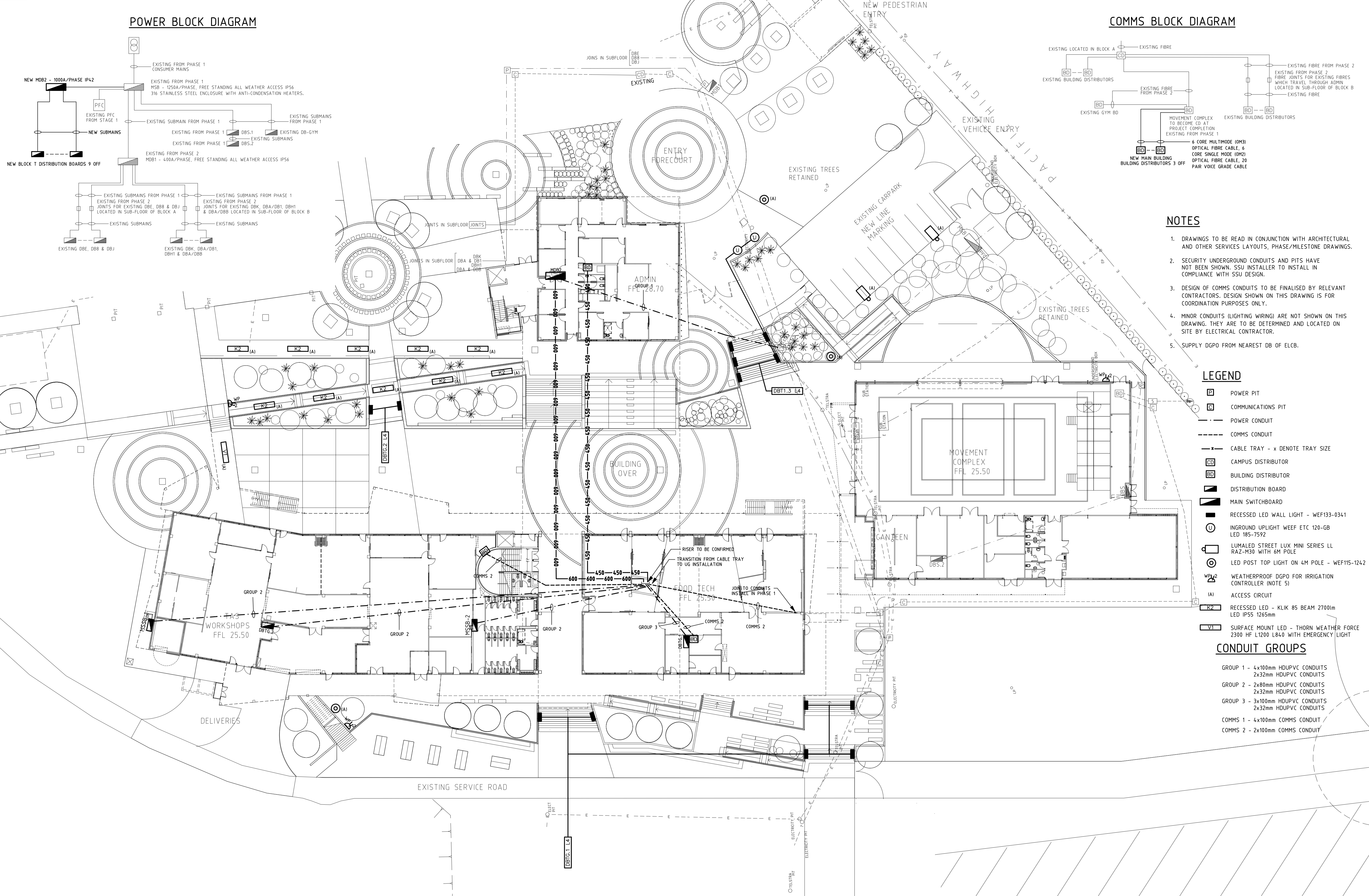
1. DRAWINGS TO BE READ IN CONJUNCTION WITH ARCHITECTURAL AND OTHER SERVICES LAYOUTS, PHASE/MILESTONE DRAWINGS.
2. SECURITY UNDERGROUND CONDUITS AND PITS HAVE NOT BEEN SHOWN. SSU INSTALLER TO INSTALL IN COMPLIANCE WITH SSU DESIGN.
3. DESIGN OF COMMS CONDUITS TO BE FINALISED BY RELEVANT CONTRACTORS. DESIGN SHOWN ON THIS DRAWING IS FOR COORDINATION PURPOSES ONLY.
4. MINOR CONDUITS (LIGHTING WIRING) ARE NOT SHOWN ON THIS DRAWING. THEY ARE TO BE DETERMINED AND LOCATED ON SITE BY ELECTRICAL CONTRACTOR.
5. SUPPLY DGPO FROM NEAREST DB OF ELCB.

**LEGEND**

- POWER PIT
- COMMUNICATIONS PIT
- POWER CONDUIT
- COMMS CONDUIT
- CABLE TRAY - x DENOTE TRAY SIZE
- CAMPUS DISTRIBUTOR
- BUILDING DISTRIBUTOR
- DISTRIBUTION BOARD
- MAIN SWITCHBOARD
- RECESSED LED WALL LIGHT - WEF133-0341
- INGROUND UPLIGHT WEEF ETC 120-GB LED 185-7592
- LUMALED STREET LUX MINI SERIES LL RAZ-M30 WITH 6M POLE
- LED POST TOP LIGHT ON 4M POLE - WEF115-1242
- WEATHERPROOF DGPO FOR IRRIGATION CONTROLLER (NOTE 5)
- ACCESS CIRCUIT
- RECESSED LED - KLIK 85 BEAM 2700lm LED IP55 1265mm
- SURFACE MOUNT LED - THORN WEATHER FORCE 2300 HF L1200 L840 WITH EMERGENCY LIGHT

**CONDUIT GROUPS**

- GROUP 1 - 4x100mm HDUPVC CONDUITS  
2x32mm HDUPVC CONDUITS
- GROUP 2 - 2x80mm HDUPVC CONDUITS  
2x32mm HDUPVC CONDUITS
- GROUP 3 - 3x100mm HDUPVC CONDUITS  
2x32mm HDUPVC CONDUITS
- COMMS 1 - 4x100mm COMMS CONDUIT
- COMMS 2 - 2x100mm COMMS CONDUIT



REV	REVISION DETAILS	BY	APP.	DATE
F	REVISED TENDER ISSUE	SP	PM	17.05.16
E	TENDER ISSUE	LM	PM	16.04.16
D	PRE-TENDER ISSUE	SP	PM	12.04.16
C	90% ISSUE	AD	PM	24.03.16
B	90% ISSUE	SP	PM	11.03.16
A	PRELIMINARY 50% ISSUE	SP	MS	1.12.15



Completion of the Drawing Status is evidence that the design has been verified as conforming to the requirements of the Project Quality Plan.			
DRAWING STATUS	Reviewed By:	Signature	Date
Preliminary	MS	MS	1.12.15
For Information Only			
For Approval	PH	PH	26.03.16
For Tender	PH	PH	17.05.16
For Construction			

DESIGN BY:  
**ELECTRICAL PROJECTS AUSTRALIA P/L**  
 (Pty Ltd / A.C.N. 053 112 502)

386 Maitland Road,  
 P.O. Box 365  
 MAYFIELD NSW 2304  
 PHONE: (02) 4967 5999  
 FAX: (02) 4967 5933

PROJECT:  
**HUNTER SPORTS HIGH SCHOOL REDEVELOPMENT**  
 CONTRACT No.WS692136689

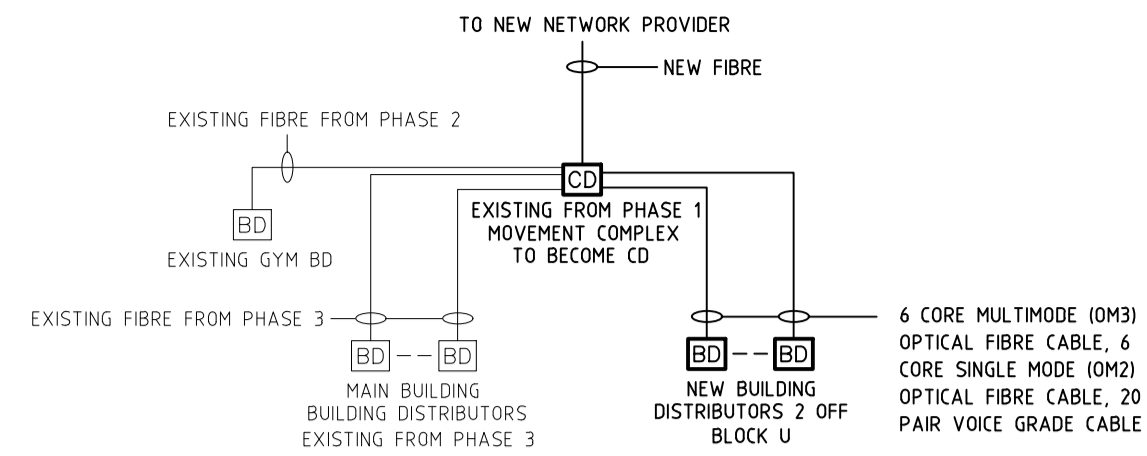
CLIENT:  
**NORTHROP CONSULTING ENGINEERS**

LOCATION:  
**PACIFIC HIGHWAY GATESHEAD NSW 2290**

DRAWING:  
**PHASE 3 ELECTRICAL & COMMS LAYOUT**

DATE: 10.11.15  
 SCALE: 1:250@A1  
 PROJECT No. 15274  
 DRAWN: SP  
 DESIGN: JC  
 PROJECT No. 15274  
 DRAWING No. E19  
 ISSUE: F

### COMMS BLOCK DIAGRAM



### NOTES

- DRAWINGS TO BE READ IN CONJUNCTION WITH ARCHITECTURAL AND OTHER SERVICES LAYOUTS, PHASE 1 AND 2 LAYOUTS AND MILESTONE DRAWINGS.
- SECURITY UNDERGROUND CONDUITS AND PITS HAVE NOT BEEN SHOWN. SSU INSTALLER TO INSTALL IN COMPLIANCE WITH SSU DESIGN.
- DESIGN OF COMMS CONDUITS TO BE FINALISED BY RELEVANT CONTRACTORS. DESIGN SHOWN ON THIS DRAWING IS FOR COORDINATION PURPOSES ONLY.
- MINOR CONDUITS (LIGHTING WIRING) ARE NOT SHOWN ON THIS DRAWING. THEY ARE TO BE DETERMINED AND LOCATED ON SITE BY ELECTRICAL CONTRACTOR.
- SUPPLY DGPO FROM NEAREST DB OF ELCB.
- SUPPLY EXISTING COLA MIXED CIRCUIT FROM DBU.3.

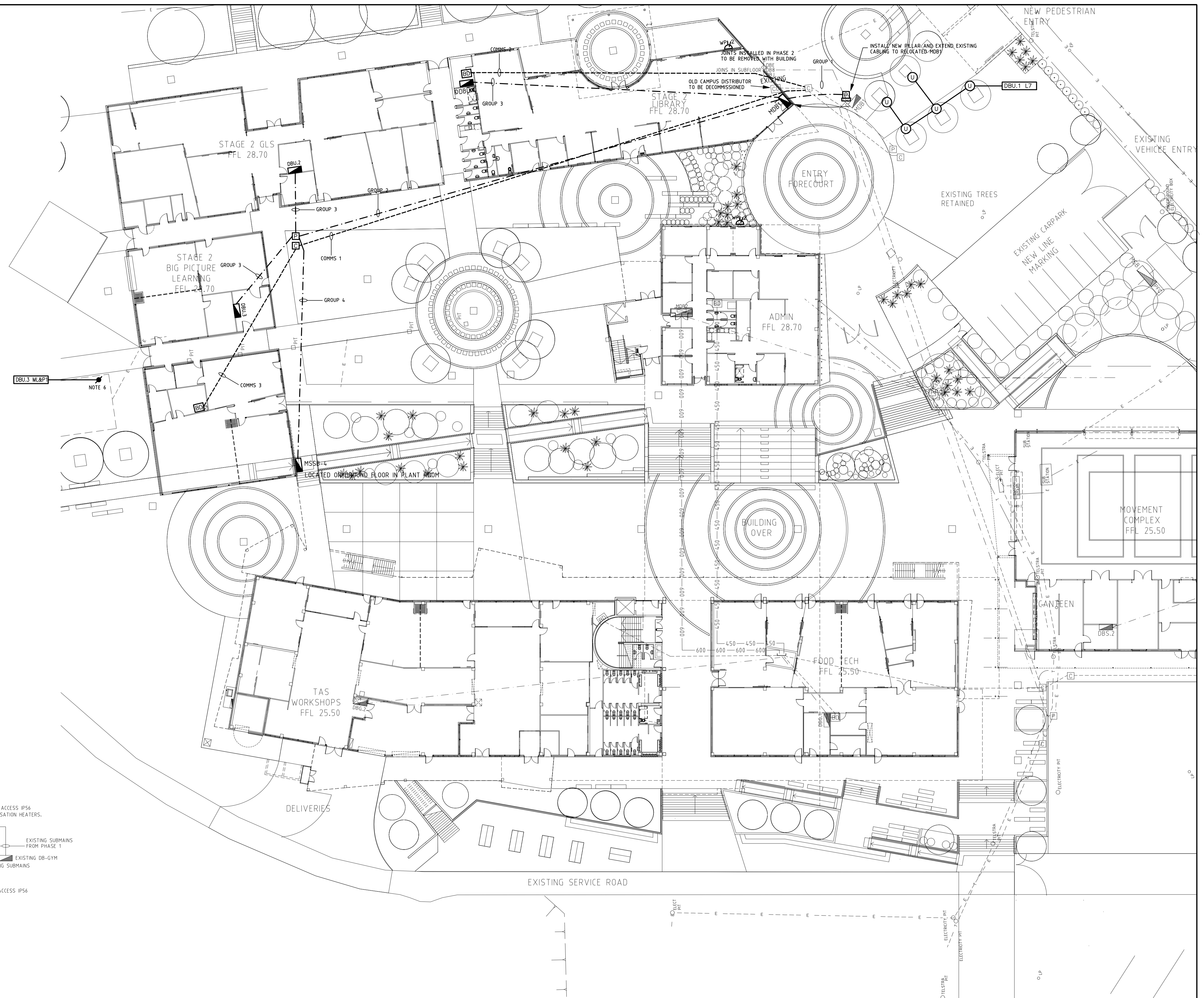
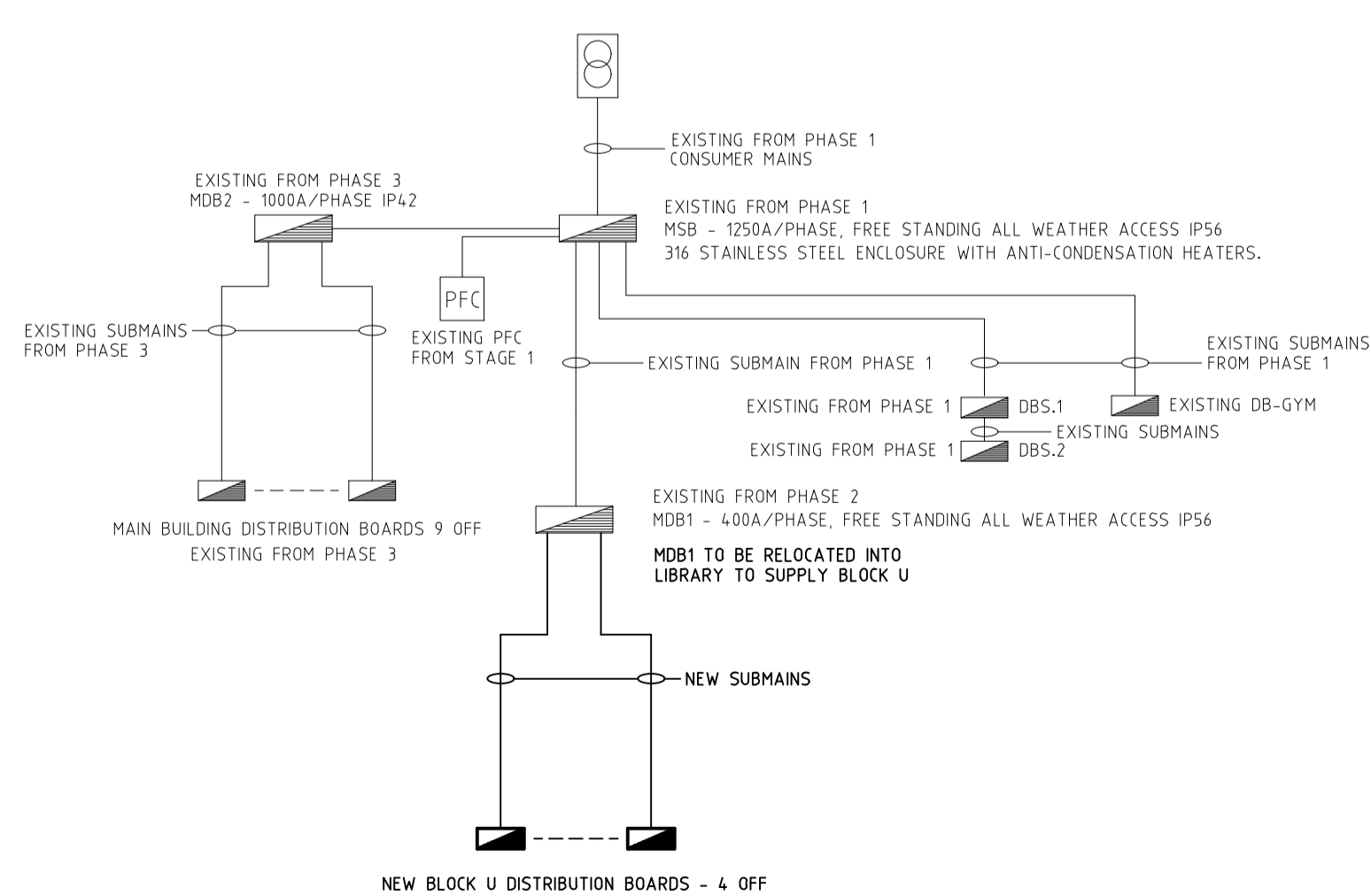
### LEGEND

- POWER PIT
- COMMUNICATIONS PIT
- POWER CONDUIT
- COMMS CONDUIT
- CAMPUS DISTRIBUTOR
- BUILDING DISTRIBUTOR
- DISTRIBUTION BOARD
- MAIN SWITCHBOARD
- RECESSED LED WALL LIGHT
- INGROUND UPLIGHT WEEF ETC 120-GB LED 185-7592
- RECESSED LED - KLIK 85 BEAM 4000 LED IP55 1265mm
- ACCESS CIRCUIT
- WEATHERPROOF DGPO FOR IRRIGATION CONTROLLER (NOTE 5)
- PILLAR

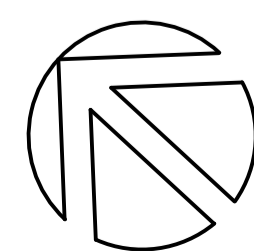
### CONDUIT GROUPS

- GROUP 1 - 3x100mm HDUPVC CONDUITS  
2x32mm HDUPVC CONDUITS
- GROUP 2 - 2x80mm HDUPVC CONDUITS  
4x63mm HDUPVC CONDUITS  
3x32mm HDUPVC CONDUITS
- GROUP 3 - 2x63mm HDUPVC CONDUITS  
1x32mm HDUPVC CONDUITS
- GROUP 4 - 2x80mm HDUPVC CONDUITS  
2x32mm HDUPVC CONDUITS
- COMMS 1 - 2x100mm COMMS CONDUIT
- COMMS 2 - 1x50mm COMMS CONDUIT
- COMMS 3 - 2x50mm COMMS CONDUIT

### POWER BLOCK DIAGRAM



REV	DESCRIPTION	BY	APP.	DATE
F	REVISED TENDER ISSUE	SP	PH	17.05.16
E	TENDER ISSUE	LM	PH	14.04.16
D	PRE-TENDER ISSUE	SP	PH	12.04.16
C	90% ISSUE	SP	PH	24.03.16
B	90% ISSUE	LM	PH	11.03.16
A	PRELIMINARY 50% ISSUE	SP	MS	1.12.15
	REVISION DETAILS	BY	APP.	DATE



Completion of the Drawing Status is evidence that the design has been verified as conforming to the requirements of the Project Quality Plan.				
DRAWING STATUS	Reviewed By:	Signature	Date	
Preliminary	MS	MS	1.12.15	
For Information Only				
For Approval	PH	PH	11.03.16	
For Tender	PH	PH	17.05.16	
For Construction				

DESIGN BY:  
**ELECTRICAL PROJECTS AUSTRALIA P/L**  
 (Pty Ltd / A.C.N. 053 112 502)

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 P.O. Box 365  
 MAYFIELD NSW 2304  
 PHONE: (02) 4967 5999  
 FAX: (02) 4967 5933

PROJECT:  
**HUNTER SPORTS HIGH SCHOOL REDEVELOPMENT**  
 CONTRACT No.WS692136689

CLIENT:  
**NORTHROP CONSULTING ENGINEERS**

LOCATION:  
**PACIFIC HIGHWAY GATESHEAD NSW 2290**

DRAWING:  
**PHASE 4 ELECTRICAL & COMMS LAYOUT**

DATE: 10.11.15      DRAWN: SP

SCALE: 1:250@A1      DESIGN: JC

PROJECT No. 15274      DRAWING No. E20      ISSUE: F