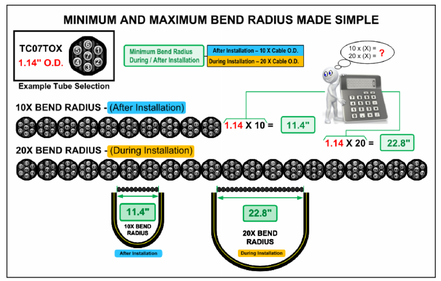
INSTALLATION PROCEDURE

1. BE200 REFURB SEE SRP-F04-100
2. ABF ASSEMBLY AND PRESSURE TESTING DEFK01 & BEPT001
3. NITROGEN MSDS-001040_2022 - (MATERIAL SAFETY DATA SHEET FOR N2 - ADDED TO BE200 KIT)
4. BLOWING HEAD SETUP PROCEDURES
5. FIBER BUNDLE INSTALLATION PROCEDURE (WITH ADDENDUM)
6. TUBE PRESSURE TESTING PROCEDURE (WITH ADDENDUM)
7. TUBE PRESSURE TEST SHEET - (ADENDUM TO SP-F04-003)
8. TUBE OBSTRUCTION TESTING PROCEDURE (WITH ADDENDUM)
9. TUBE OBSTRUCTION TEST SHEET - (ADENDUM TO SP-F04-004)
10. INDOOR WALL MOUNTED TDU INSTALLATION PROCEDURE
11. FIBER BUNDLE STRIPPING PROCEDURE
12. TUBE CABLE INSTALLATION PROCEDURES
13. FIELD TERMINATION KIT PROCEDURES FOR FTFLD02, FTFLD04 AND FTFLD06 - (900MM) SUB UNIT KITS
14. RESTORATION PROCEDURE - DIELECTRIC TUBE CABLES & TUBE CABLE SPLICE KITS
15. RESTORATION PROCEDURE - ARMORED TUBE CABLES & SPLICE CASE KITS
16. RACK MOUNTED TUBE CABLE TERMINATION PANEL ASSEMBLY PROCEDURE
17. SPLICE CASE KIT INSTALLATION PROCEDURE
18. ADDENDUM - PLP_C-CEMENT_MSDS_PRINT & INCLUDE IN KIT - INCLUDED WITH DEXXSPC KITS
19. ADDENDUM - PLP_SP 2801_CUE CARD_PRINT & INCLUDE IN KIT - INCLUDED WITH DEXXSPC KITS
20. ADDENDUM - PLP_SP 2918-2_SHELL ASSEMBLY_PRINT & INCLUDE IN KIT - INCLUDED WITH DEXXSPC KITS
21. ADDENDUM - PLP_SP 2919-1_END PLATE ASSEMBLY_PRINT & INCLUDE IN KIT - INCLUDED WITH DEXXSPC KITS
22. TUBE CABLE SPLICE KIT INSTALLATION PROCEDURE
23. TUBE AND TUBE CABLE SEALING PROCEDURES
24. INSTALLATION PROCEDURES FOR LIQUID-TIGHT KELLEMS GRIPS
25. FIBER BUNDLE REMOVAL PROCEDURE
26. TANDEM BLOWING PROCEDURE FOR MULTIPLE BLOWING HEADS
27. MID-SPAN BLOWING WITH A FIGURE 8 PROCEDURE
28. SEGMENT BLOWING WITH A FIGURE 8 PROCEDURE
29. PLENUM-RATED JACKETED TUBE CABLE TCXXTP2 INSTALLATION PROCEDURES C32:C52C32:C53
30. GROUNDING AND BONDING METALLIC TUBE CABLE PROCEDURES
31. TUBE CABLE SPLICING PROCEDURES
32. SEALING PROCEDURES FOR FUTUREFLEX TUBE CABLES LOCATED IN CLASS 1 DIVISION 1 & 2 ENVIRONMENTS
33. SEALING PROCEDURES FOR FUTUREFLEX TUBES LOCATED IN CLASS 1 DIVISION 1 & 2 ENVIRONMENTS
34. FIELD TERMINATION KIT PROCEDURES FOR FT24FBK 900 MM SUB UNIT KITS
35. INSTALLATION PROCEDURES FOR STRAIN RELIEF KELLEMS GRIPS
36. INSTALLATION PROCEDURES FOR CABLE ENTRY SEALS
37. ARMORED TUBE CABLE INSTALLATION PROCEDURES
38. FB48XXX 900 MM BUFFER TUBE FIBER BREAKOUT AND TERMINATION INTO FOX CASSETTES
39. FIELD TERMINATION KIT FOR FT48FBK 900MM SUB-UNIT KIT
40. FIELD TERMINATION KIT PROCEDURES FOR FT06FBK 900 MM SUB-UNIT KITS
41. FIELD TERMINATION KIT PROCEDURES FOR FT18FBK 900 MM SUB UNIT KITS
42. FIELD TERMINATION KIT PROCEDURES FOR FT12FBK 900 MM SUB UNIT KITS
43. FP48PVS & FP72PVX-FIBER BUNDLE STRIPPING PROCEDURES
44. FIELD TERMINATION FOR FP72PVX FIBER BUNDLES WITH FT72FBK-12SU / -12MU BREAKOUT KIT
45. FP72PVX FIBER BUNDLE PROCEDURE FOR SINGLE FIBER TERMINATION USING A FB72FBK 900MM BREAKOUT KIT
46. FIELD TERMINATION KIT PROCEDURE FOR FT48FBK & FT72FBK TO FOX CASSETTE
47. ARMORED TUBE CABLE INSTALLATION ON BRIDGES WITHOUT CONDUIT
48. FP48PVS & FP72PVX RIBBON MATRIX REMOVAL PROCEDURE
49. FIELD TERMINATION PROCEDURE FB48 FIBER BUNDLES WITH FT48BK-12MU 3.8MM BREAKOUT KITS
50. FUTURE FLEX PATCH PANEL INSTALLATION
51. PROCEDURE FOR LUBRICATING TUBES FOR 72 COUNT PVDF AIR BLOWN FIBER INSTALLATION
52. PROCEDURE FOR INSTALLATION OF RESCUE TAPE
53. SPLICE CASE FLASH TEST DATA SHEET - (FOR LFI'S - PRINTABLE .PDF)
54. PROCEDURE FOR INSTALLATION OF EPOXY IN HORIZONTAL POSITION
55. TUBE & TUBE CABLE FASTENING PROCEDURES -UNITED-F - (FOR UAL PROJECTS ONLY)
56. TUBE & TUBE CABLE FASTENING PROCEDURES -SOUTHWEST - (FOR SOUTHWEST PROJECTS ONLY)



TELECOMMUNICATIONS GENERAL CONSTRUCTION NOTES

G1. REFER TO SHEET TC5.01 FOR ALL FACE PLATE, BACK BOX, AND CONDUIT SIZE REQUIREMENTS FOR ALL VOICE/DATA OUTLETS.

G2. DRAWINGS ARE SCHEMATIC IN NATURE AND ARE NOT DRAWN TO SCALE. CONTRACTOR IS RESPONSIBLE FOR COORDINATING EXACT ROUTING OF ALL SERVICES AND DISTANCES WITH EXISTING CONDITIONS AND WITH ALL OTHER TRADES.

G3. CONDUITS AND SLEEVES ARE TO HAVE A MAXIMUM 40% FILL RATIO.

G4. IN THE INSTALLATION OF THIS WORK, THE CONTRACTOR IS TO COMPLY WITH THE REQUIREMENTS OF LOCAL LAWS AND ORDINANCES, THE LAWS OF TEXAS., THE NATIONAL BOARD OF FIRE UNDERWRITERS, AND THE NATIONAL ELECTRIC CODE. AND ALL APPLICABLE BICSI STANDARDS.

G5. CAREFULLY EXAMINE THE PREMISES TO DETERMINE THE EXTENT OF WORK AND THE CONDITION UNDER WHICH IT MUST BE DONE. IF THERE ARE ANY QUESTIONS REGARDING THE PROJECT,THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING CLARIFICATIONS FROM THE ENGINEER OR DESIGNATED REPRESENTATIVE BEFORE PROCEEDING WITH WORK OR RELATED WORK IN QUESTION.

G6. ANY DISCREPANCIES BETWEEN THE PLANS AND ACTUAL FIELD CONDITIONS MUST BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER OR DESIGNATED REPRESENTATIVE FOR CLARIFICATION.

G7. ALL WORK IS TO BE DONE IN A THOROUGH AND PROFESSIONAL MANNER ACCORDING TO INDUSTRY AND MANUFACTURERS' STANDARDS AND WILL BE SUBJECT TO INSPECTION AND ACCEPTANCE. WORK THAT IS DEEMED SUB-STANDARD WILL BE SUBJECT TO REPLACEMENT OR REPAIR AT NO ADDITIONAL COST TO THE OWNER OR GENERAL CONTRACTOR.

G8. THE CONTRACTOR IS REQUIRED TO PROPERLY FIRE-STOP ANY CORES UTILIZED FOR THE PLACEMENT OF COMMUNICATIONS INFRASTRUCTURE AND CABLING WITH APPROVED FIRE-STOPPING COMPOUND AND ACCORDING TO LOCAL AND NATIONAL CODES.

G9. ANY DISCREPANCIES BETWEEN THE PLANS AND ACTUAL PROJECT SPECIFICATIONS MUST BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER OR DESIGNATED REPRESENTATIVE FOR CLARIFICATION.

G10. ALL PENETRATED STRUCTURES ARE TO BE RETURNED TO ORIGINAL CONDITION AND FIRE RATING.

ABBREVIATION CATALOG

ABF AIR BLOWN FIBER
ADA AMERICANS WITH DISABILITIES ACT
AFF ABOVE FINISHED FLOOR
AFG ABOVE FINISHED GRADE
AHJ AUTHORITY HAVING JURISDICTION
AL ALUMINUM
AWG AMERICAN WIRE GAUGE
BMS BUILDING MANAGEMENT SYSTEM
C CONDUIT
CAT CATEGORY
CATV CABLE TELEVISION
CM CENTIMETER
CMPT COMPONENT
CNN CABLE NEWS NETWORK
COMM COMMUNICATIONS
CPST COMPOSITE
CR COMMUNICATIONS ROOM
CU COPPER
CUP CENTRAL UTILITY PLANT
DBS DIRECT BROADCAST SATELLITE
DEMO DEMOLISH
DWG DRAWING
EC ELECTRICAL CONTRACTOR
EMT ELECTRICAL METALLIC TUBING
FO FIBER OPTIC
GC GENERAL CONTRACTOR
GRD GROUND
GRS GALVANIZED RIGID STEEL
HH HAND HOLE
IDF INTERMEDIATE DISTRIBUTION FRAME
IG ISOLATED GROUND
IMC INTERMEDIATE METAL CONDUIT
IT INFORMATION TECHNOLOGY
LV LOW VOLTAGE
M METER
MC MECHANICAL CONTRACTOR
MCR MAIN COMMUNICATIONS ROOM
MDF MAIN DISTRIBUTION FRAME
MFR MANUFACTURER
MMFO MULTI-MODE FIBER OPTIC
MMOF MULTI-MODE OPTICAL FIBER
N/A NOT AVAILABLE/NOT APPLICABLE
NEC NATIONAL ELECTRICAL CODE
NEMA NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NFPA NATIONAL FIRE PROTECTION ASSOCIATION
NIC NOT IN CONTRACT
NTS NOT TO SCALE
OAR OWNER AUTHORIZED REPRESENTATIVE
OC ON CENTER
OFNR OPTICAL FIBER NON-CONDUCTIVE RISER CABLE
OLT OPTICAL LINE TERMINAL
ONT OPTICAL NETWORK TERMINAL
PB PULL BOX
PBX PRIVATE BRANCH EXCHANGE
PC PERSONAL COMPUTER
PEN PENETRATION
PVC POLYVINYL CHLORIDE CONDUIT
RGB RED,GREEN, BLUE
RGS RIGID GALVANIZED STEEL
RM ROOM
RMC RIGID METAL CONDUIT
TBD TO BE DETERMINED
TDR TELECOMMUNICATIONS DISTRIBUTION ROOM
TDS TELECOMMUNICATION DISTRIBUTION SYSTEM
TE TELECOMMUNICATION EQUIPMENT ROOM
TEC TELECOM ENCLOSURE
TELE TELEPHONE
TELECOM TELECOMMUNICATIONS
TGB TELECOMMUNICATIONS GROUND BUSBAR
TIA TELECOMMUNICATIONS INDUSTRY ASSOCIATION
TMGB TELECOMMUNICATIONS MAIN GROUNDING BUSBAR
TSER TELECOMMUNICATIONS SERVICE ENTRANCE ROOM
TSP TWISTED SHIELDED PAIR
TV TELEVISION
TYP TYPICAL
UL UNDERWRITER'S LABORATORIES
UON UNLESS OTHERWISE NOTED
UPS UNINTERRUPTIBLE POWER SUPPLY
UTP UNSHIELDED TWISTED PAIR
VOIP VOICE OVER INTERNET PROTOCOL
W/ WITH
WG WIREGUARD
WT WATERTIGHT
XP EXPLOSION PROOF

UTILITY LEGEND

SYMBOL	DESCRIPTION
	CONDUIT BELOW GRADE ON SITE, or UNDER FLOOR. REFER TO SITE PLAN DRAWINGS/SCHEDULE FOR ADDITIONAL INFORMATION.
	CONDUIT ABOVE GRADE IN CEILING. REFER TO SITE PLAN DRAWINGS/SCHEDULE FOR ADDITIONAL INFORMATION.
T	TELECOMMUNICATIONS - HAND HOLE
	TELECOMMUNICATIONS - VAULT
	TSER (MDF), TDR (IDF) APPROXIMATE ROOM LOCATION
	CONTINUATION LINE

TELECOM SHEET INDEX

STANDARD FIBER BUNDLE BLOWING DISTANCES USING (1) BLOWING HEAD

6 AND 12 FIBER BUNDLES (2MM O.D.)	APPROX. BLOWING DISTANCE
OSP Tube Cables MTIO Tube Cables	1500 meters or 5000 feet 1500 meters or 5000 feet
TRC (Riser) Tube Cables	1000 meters or 3300 feet
TP2 (Plenum) Tube Cables	600 meters or 1950 feet

24-FIBER BUNDLES (3mm O.D.)	APPROX. BLOWING DISTANCE
OSP Tube Cables MTIO Tube Cables	1800 meters or 6000 feet 1500 meters or 5000 feet
TRC (Riser) Tube Cables	1000 meters or 3300 feet
TP2 (Plenum) Tube Cables (24-fiber bundles in Tube cables with seven (7) or greater Tube count only)	300 meters or 1000 feet

48-PEF-FIBER BUNDLES (3.7mm O.D.)	APPROX. BLOWING DISTANCE
OSP Tube Cables & MTIO Tube Cables	1400 meters or 5000 feet
TRC (Riser) Tube Cables	1000 meters or 3300 feet
TP2 (Plenum) TC07TP2, or larger TC	220 meters or 750 feet

48 & 72PVS -FIBER BUNDLES (3.1 and 3.7mm O.D.)	APPROX. BLOWING DISTANCE
OSP Tube Cables (without lubricant)	700 meters or 2300 feet
OSP Tube Cables (with lubricant)	1220 meters or 4000 feet
TRC (Riser) Tube Cables	800 meters or 2,600 feet
TP2 (Plenum) TC07TP2, or larger TC	220 meters or 750 feet

Notes:

- Tube Lubrication using the Application Syringe and Sponges Must be performed on all Tube(s) accepting a FP48PVS, FP72PVS, FP72PV3 or FP72PV4 Fiber Bundle. This procedure Must be performed no more than 1 hour prior to blowing in a Fiber Bundle. This procedure applies to the FPxxPVx Fiber Bundles Only. See SRP: SP-F04-053 for procedure details.
- All distances given are approximate values only and can vary greatly.
- Several key factors heavily influence actual blowing distances:
  1. The location, number, and severity of bends in a Tube span route.
  2. The fiber bundle size being installed (2mm O.D., 3mm O.D. 3.1mm O.D. 3.7mm O.D. & 4.1 O.D.)
  3. The Tube Cable type or types being blown through.
- 24f, 48f, and 72f fiber bundles are slightly stiffer than the 6f and 12f fiber bundles and are not as flexible. Consequently, 24f, 48f and 72f fiber bundle blowing distances may be slightly less than the approximate distances noted if installed in Tube Cable routes with numerous tight bends.
- Extended Blowing Techniques can be used to install fiber bundles beyond the standard blowing distances given above or to help get fiber bundles through difficult Tube routes (i.e.: those with numerous tight bends). Refer to SRPs:
  - SP-F04-026 Tandem Blowing Procedure.
  - SP-F04-027 Mid-Span Blowing With a Figure 8 Procedure.
  - SP-F04-028 Segment Blowing With a Figure 8 Procedure.

Important Note: As a General Practice, Always avoid Tight Bends for all Tube Cable types and Always focus on minimizing the number of bends for all installed Tube Spans.

Burns

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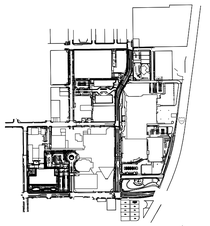

KEY PLAN

N

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BURNS ENGINEERING F-4827
09/12/2025

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No.	Date	Revision

Project Title:

JOHN PETER SMITH (JPS) CAMPUS OPTICAL FIBER LOOP

Drawing Title:

TECHNOLOGY SYMBOLS, LEGENDS, GENERAL NOTES, & SHEET INDEX

Date:	09/12/2025
Scale:	1"=100'
Drawn:	GF
Checked:	MH/PG
Job No:	2024-0287

Drawing No:

TC000

ABF DO'S AND DON'TS

TUBE CABLE REEL HANDLING

DO'S

ALWAYS INSPECT TUBE CABLE REELS UPON RECEIPT OR WHEN REMOVED FROM STORAGE

ALWAYS STORE AND TRANSPORT TUBE CABLE REELS IN VERTICAL POSITION

ALWAYS ENSURE ALL OPEN TUBE CABLE ENDS ARE SEALED TO PREVENT CONTAMINATION FROM ENTERING TUBES DURING STORAGE AND TRANSPORT

IF TUBE CABLE WILL BE INSTALLED DURING COLD WEATHER, TRY TO STORE TUBE CABLE REEL INDOORS OVERNIGHT TO LET TUBE CABLE WARM UP; IT WILL BE EASIER TO INSTALL

DONT'S

DO NOT ACCEPT TUBE CABLE REELS WITH OBVIOUS PHYSICAL DAMAGE OR IF RECEIVED IN A HORIZONTAL POSITION

NEVER STORE AND TRANSPORT TUBE CABLE REELS IN HORIZONTAL POSITION; CAN RESULT IN DAMAGE TO LOWER COIL TUBES

DO NOT STORE INDOOR RATED TUBE CABLE REELS OUTDOORS UNLESS THEY ARE WELL COVERED AND PROTECTED FROM THE SUN'S UV RAYS

DO NOT ROLL TUBE CABLE REELS FOR LONG DISTANCES

FIBER BUNDLE REEL HANDLING

DO'S

ALWAYS INSPECT FIBER BUNDLE REELS UPON RECEIPT

ALWAYS STORE AND TRANSPORT FIBER BUNDLE REELS IN THEIR FUTUREFLEX SHIPPING BOX WITH PLASTIC PROTECTIVE COVER (CLAMSHELL) INSTALLED ON REEL

ALWAYS REMOVE, COPY, AND SAVE INSPECTION CERTIFICATE & TEST REPORT FROM EACH FIBER BUNDLE REEL

DONT'S

DO NOT ACCEPT FIBER BUNDLE REELS WITH OBVIOUS PHYSICAL DAMAGE

NEVER STORE FIBER BUNDLE REELS OUTDOORS

DO NOT CUT, DAMAGE, OR LOSE PLASTIC PROTECTIVE COVER (CLAMSHELL); IT IS REUSABLE AND DESIGNED TO PROTECT THE FIBER BUNDLE

SPECIAL TCXXTP2 PLENUM TUBE CABLE INSTALLATION TECHNIQUES (REF: SRP SP-F04-029)

DO'S

DO REVIEW AND FOLLOW THE SPECIAL INSTALLATION TECHNIQUES ASSOCIATED WITH THE TP2 PLENUM-RATED TUBE CABLES; SEE SRP SP-F04-029

DONT'S

DON'T FORGET TO REVIEW AND FOLLOW THE SPECIAL INSTALLATION TECHNIQUES ASSOCIATED WITH THE TP2 PLENUM-RATED TUBE CABLES; SEE SRP SP-F04-029

DURING TUBE CABLE INSTALLATION (REF: SRP SP-F04-008)

DO'S

ALWAYS ENSURE ALL OPEN TUBE CABLE ENDS ARE PROPERLY AND POSITIVELY SEALED; ZERO CONTAMINATION INSIDE TUBES

USE A BREAK AWAY TYPE SWIVEL HEAD PULLING GRIP TO AVOID SPIRALING AND OVER-TENSIONING THE TUBE CABLE

ALWAYS PAY TUBE CABLES OFF TOP OF REEL

USE STANDARD PULLING LUBRICANTS TO EASE TUBE CABLE PULLS THROUGH CONDUIT

ALWAYS MAINTAIN A 20X TUBE CABLE OD MINIMUM BEND RADIUS (OR BETTER) DURING INSTALLATION (UNDER TENSION) TO AVOID DAMAGING TUBES

ALWAYS MAINTAIN A MINIMUM 9-INCH BEND RADIUS (OR BETTER) ON SINGLE TUBES DURING AND AFTER INSTALLATION

ALWAYS INSTALL SUFFICIENT GENERAL SLACK FOOTAGE IN EVERY TUBE CABLE RUN

ALWAYS INSTALL SUFFICIENT THERMAL SLACK FOOTAGE IF TUBE CABLE WILL BE SUBJECTED TO THERMAL EXPANSION & CONTRACTION CONDITIONS; SEE THERMAL FORMULAS IN SRP SP-F04-008

INSTALL AN EXTRA 3-FEET OF TUBE CABLE LENGTH AT EVERY TDU ENTRY POINT; TO PROVIDE SUFFICIENT MATERIAL FOR TUBE CABLE SPLICING / COUPLING PURPOSES

ALWAYS MATE LOW # END OF ONE TUBE CABLE SEGMENT TO HIGH # END OF OTHER TUBE CABLE SEGMENT FOR PROPER IN-LINE TUBE ORIENTATION AT IN-LINE SPLICE POINTS; NO TWISTS IN TUBES WHEN COUPLED

IF DIRECT BURYING TUBE CABLE, ALWAYS INSTALL TUBE CABLE BELOW FROST LINE WHERE TUBE CABLE IS NOT SUBJECT TO GROUND HEAVING EFFECTS

DONT'S

DO NOT EXCEED TENSILE LOAD RATING (MAXIMUM ALLOWABLE PULLING TENSION) OF TUBE CABLES WHEN INSTALLING; REFER TO PRODUCTS LIST FOR TENSILE LOAD RATINGS

DO NOT KINK TUBE CABLES DURING INSTALLATION; HANDLE WITH CARE

NEVER PULL TUBE CABLES OVER SHARP POINTS OR EDGES; ALWAYS PROVIDE SOME KIND OF PROTECTION SO TUBE CABLE JACKET IS NOT DAMAGED

NEVER LET TUBE CABLE REST ON SHARP EDGES (e.g. ANGLE IRON, ETC.) AFTER INSTALLATION; DANGER OF KINKING TUBES

AFTER TUBE CABLE INSTALLATION AND WORKING IN TDUS & FTUS

DO'S

ALWAYS MAINTAIN A 10X TUBE CABLE OD MINIMUM BEND RADIUS (OR BETTER) AFTER INSTALLATION

ALWAYS MAINTAIN A 9-INCH MINIMUM BEND RADIUS (OR BETTER) ON SINGLE TUBES FOR GOOD BLOWABILITY

ALWAYS TRY TO ROUTE TUBE CABLES STRAIGHT THROUGH TDUS; AVOID CROSSOVERS AND 180-DEGREE TURNS INSIDE TDUS IF POSSIBLE

ALWAYS EXERCISE CARE AND WEAR APPROPRIATE PERSONAL SAFETY EQUIPMENT (GLOVES, GLASSES,ETC.) WHEN STRIPPING TUBE CABLE JACKETS

USE LIQUID-TIGHT KELLEMS GRIPS TO SEAL AND SECURE TUBE CABLES TO PROPER OUTDOOR NEMA-RATED TDUS (BOXES) IF THEY ARE SUBJECT TO HOSING,SPLASHING, OR FLOODING CONDITIONS OR IF TUBE CABLE IS SUBJECT TO EXPANSION / CONTRACTION MOVEMENTS

USE STRAIN RELIEF KELLEMS GRIPS TO SECURE TUBE CABLES TO INDOOR TDUS (BOXES) ONLY WHERE A STRAIN RELIEF APPLICATION IS REQUIRED AND THE TDUIS NOT SUBJECT TO HOSING, SPLASHING, OR FLOODING CONDITIONS

APPLY LABELS OR ID TAGS TO INDIVIDUAL TUBES AND TUBE CABLES AS SOON AS POSSIBLE

ALWAYS USE A TUBING CUTTER TO CUT TUBE ENDS WITH A STRAIGHT CLEAN CUT FOR THE BEST SEAT AND SEAL IN TUBE COUPLINGS & FITTINGS ALWAYS ENSURE ALL TUBES ARE FIRMLY CONNECTED TO TUBE COUPLINGS AND OTHER PUSH-PULL FITTINGS;PUSH TUBE IN UNTIL FULLY SEATED & TUG BACK TO VERIFY LOCK

ALWAYS GROUND & BOND METALLIC TUBE CABLE ELEMENTS WITH APPROPRIATE HARDWARE AND TECHNIQUES; IN ACCORDANCE WITH TIA/EIA 607 AND SRP SP-F04-030

ALWAYS PRACTICE GOOD TUBE MANAGEMENT TECHNIQUES WHEN CONNECTING, ROUTING, AND STORING TUBES INSIDE TDUS AND FTUS

DONT'S

NEVER OVER TIGHTEN ANY CLAMP OR FITTING AROUND TUBE CABLE

DO NOT INSTALL TIGHT BENDS OR TIGHT S-CURVES IN FINAL TUBE CABLE AND INDIVIDUAL TUBE ROUTING; IMPACTS BLOWABILITY

DO NOT USE AN UNDERSIZE TDU FOR A GIVEN TUBE CAPACITY; BIGGER IS BETTER

DO NOT SCORE TUBE CABLE'S OUTER SHEATH TOO DEEPLY DURING STRIPPING OPERATIONS OR TUBES CAN BE NICKED

DO NOT ROUGH-HANDLE INDIVIDUAL TUBES

DO NOT LEAVE ANY TUBE ENDS OPEN; IMMEDIATELY SEAL WITH TUBE CAPS (INDOOR / OUTDOOR) OR TUBE PLUGS (INDOOR)

DO NOT INSTALL TIGHT 180-DEGREE TUBE BENDS IN TDUS IF POSSIBLE; INSTALL EXTRA TUBE LENGTH AND COIL IN A LOOP TO ALLEVIATE ANY TIGHT BENDS AND IMPROVE BLOWABILITY (USE EXPANDED LOOP TECHNIQUE)

DO NOT INSTALL EXCESSIVE LENGTHS OF TUBING INSIDE TDUS AND FTUS; "SERVICE LOOPS" ARE NOT REQUIRED NOR DESIRED

COMPRESSED GAS SAFETY

DO'S

ALWAYS ENSURE BOTTLE SAFETY CAP IS INSTALLED DURING STORAGE AND TRANSPORT

ALWAYS ENSURE GAS BOTTLES ARE PROPERLY SECURED TO PREVENT KNOCK-OVER

ALWAYS ENSURE GAS BOTTLES ARE PLACED IN A STABLE DOLLY AND PROPERLY SECURED IN PLACE

ALWAYS EVALUATE FIBER BUNDLE ENTRY AND EXIT POINTS FOR PROPER / ADEQUATE VENTILATION; SET UP AUXILIARY VENTILATION EQUIPMENT IF NECESSARY

MAKE SURE A MATERIAL SAFETY DATA SHEET (MSDS) IS ON HAND AND OPERATING PERSONNEL ARE FAMILIAR WITH ITS CONTENTS

DONT'S

NEVER STORE OR TRANSPORT GAS BOTTLES WITHOUT BOTTLE SAFETY CAP INSTALLED

NEVER MISTREAT GAS BOTTLES; NO ROUGH HANDLING, ROLLING, DROPPING, ETC.

NEVER "PLAY" WITH HIGH PRESSURE GAS; DO NOT POINT AT OWN SKIN, AT OTHER PERSONNEL, OR AT EQUIPMENT

BLOWING HEAD SET UP (REF: SRP SP-F04-001)

DO'S

ALWAYS POSITION BLOWING HEAD TRANSIT CASE TO WHERE IT MAKES THE MOST SENSE AND PROVIDES EASY ACCESS TO BLOWING HEAD EQUIPMENT, GAS BOTTLE, AND PRESSURE REGULATOR

ALWAYS SET UP BLOWING HEAD IN ACCORDANCE WITH SRP PROCEDURES; BE CAREFUL AND DELIBERATE DURING THESE IMPORTANT STEPS

ALWAYS PERFORM PREVENTATIVE MAINTENANCE PROCEDURES TO CLEAN BLOWING HEAD AND APPLY AIR MOTOR CLEANER FLUID TO AIR MOTOR; APPLY 3-4 DROPS OF CLEANER FLUID BEFORE EVERY USE

ALWAYS USE CARE WHEN INSTALLING FIBER BUNDLE REEL INTO PAYOFF STAND; REEL IS HEAVY AND CAN BE AWKWARD TO HANDLE

ALWAYS LOAD FIBER BUNDLE INTO BLOWING HEAD CAREFULLY USING THE CORRECT SIZE (2MM AND 3MM) FIBER BUNDLE DRIVE WHEELS, AIR SEALS, AND BLOWING TIPS

ALWAYS INSPECT CONDITION OF DRIVE WHEELS AND CHANGE IF SHOWING SIGNS OF WEAR;

ALWAYS INSTALL THE AIR SEAL WITH THE SLIT FACING DOWN.

DONT'S

DO NOT POSITION BLOWING HEAD WHERE HARD OR SHARP BENDS WILL BE INTRODUCED IN THE TUBING LEADING TO THE FIBER BUNDLE ENTRY POINT

NEVER USE 2MM DRIVE WHEELS, AIR SEALS, OR BLOWING TIPS TO INSTALL 3MM FIBER BUNDLE; STRONG RISK OF DAMAGING LARGER 3MM FIBER BUNDLE

DO NOT USE 3MM DRIVE WHEELS, AIR SEALS, OR BLOWING TIPS TO INSTALL 2MM FIBER BUNDLE; RESULTS IN POOR BLOWING PERFORMANCE AND EXCESSIVE LEAKAGE AT BLOWING HEAD

DO NOT LOSE OR DAMAGE FIBER BUNDLE REEL PROTECTIVE COVER (CLAMSHELL)

DO NOT PINCH FIBER BUNDLE WHEN CLOSING BLOWING HEAD HALVES; BE CAREFUL AND DO NOT HURRY

NEVER BLOW FIBER BUNDLE WITHOUT A BLOWING TIP INSTALLED; SEVERE RISK OF DAMAGING FIBER BUNDLE

DO NOT UNDER-ESTIMATE THE IMPORTANCE OF USING GOOD / UNWORN FIBER BUNDLE DRIVE WHEELS

TUBE PRESSURE & TUBE OBSTRUCTION TESTING (REF: SRP SP-F04-003 AND SRP SP-F04-004)

DO'S

PRESSURE AND OBSTRUCTION TEST ALL TUBES UPON COMPLETION OF TUBE CABLE INSTALLATION; ALL TUBE COUPLINGS, FITTINGS, AND CLAMPS INSTALLED AND ALL TUBE ROUTES SET

PRESSURE AND OBSTRUCTION TEST AN INDIVIDUAL TUBE SPAN JUST BEFORE BLOWING IN FIBER BUNDLE; "LAST MINUTE" TESTING ENSURES TUBE IS UNDAMAGED / UNCHANGED SINCE LAST MANDATORY TESTING

ALWAYS EXERCISE CAUTION AROUND TUBE ENDS SEALED WITH TUBE PLUGS; THEY CAN BE BLOWN OUT OF TUBE END WITH MINIMAL PRESSURE AND CAUSE SERIOUS INJURY

ALWAYS PROVIDE A SAFE CATCH DEVICE AT EXIT END OF TUBE AND WEAR APPROPRIATE PERSONAL SAFETY EQUIPMENT; BEADS DO EXIT AT HIGH VELOCITY

ALWAYS RE-SEAL ALL OPEN TUBE ENDS AFTER TUBE TESTING IS COMPLETED

ALWAYS RECORD ALL TUBE TEST RESULTS; SAMPLE TEST DATA SHEETS ARE AVAILABLE IN THE SRPS

DONT'S

NEVER STAND IN FRONT OF TUBES DURING PRESSURE AND OBSTRUCTION TESTING

NEVER POINT TUBES AT OTHER PERSONNEL OR EQUIPMENT; NO "HORSEPLAY"

DO NOT EXCEED RECOMMENDED 150 PSI PRESSURE TEST PRESSURE

DO NOT EXCEED RECOMMENDED 60 - 80 PSI OBSTRUCTION TEST PRESSURE

BEFORE INSTALLING FIBER BUNDLE

DO'S

IF NOT FAMILIAR WITH TUBE CABLE ROUTE, WALK THE LINE LOOKING FOR POTENTIAL TROUBLE SPOTS SUCH AS TIGHT BENDS, UPHILL RUNS, ETC.; ELIMINATE POTENTIAL PROBLEMS BEFORE STARTING BLOWING OPERATIONS

CHECK TUBE ROUTING INSIDE AS MANY ACCESSIBLE TDUS AS POSSIBLE AND LOOK FOR TIGHT BENDS; INSTALL EXTRA TUBE LENGTH AND COIL IN A LOOP TO ALLEVIATE TIGHT BENDS (USE THE EXPANDED LOOP TECHNIQUE SHOWN IN SRP SP-F04-005)

ALWAYS EVALUATE FIBER BUNDLE EXIT POINT; ENSURE FIBER BUNDLE WILL NOT BE OBSTRUCTED AS IT EXITS TUBE

IF NEEDED, SET UP 2 GAS BOTTLES, 2 PRESSURE REGULATORS, AND THE DUAL-TANK ISOLATION VALVE KIT TO INCREASE GAS SUPPLY

BE PREPARED TO PERFORM EXTENDED BLOWING TECHNIQUES IF FACING LONG DISTANCES AND / OR TORTUOUS TUBE SPAN ROUTES; REFER TO SRPS SP-F04-026, SP-F04-027, AND SP-F04-028

DONT'S

NEVER BEGIN BLOWING OPERATIONS UNTIL PROPER AND CLEAR COMMUNICATIONS CAN BE ESTABLISHED BETWEEN FIBER BUNDLE ENTRY AND EXIT POINT PERSONNEL

NEVER START BLOWING OPERATIONS UNTIL GOOD AIR FLOW IS CONFIRMED AT EXIT END OF TUBE; MEANS TUBE IS FULLY CHARGED

STANDARD FIBER BUNDLE BLOWING DISTANCES USING ONE (1) BLOWING HEAD

6, & 12 FIBER BUNDLES (2MM OD)	APPROX. BLOWING DISTANCE
ALL OSP TUBE CABLES MTX (MASS TRANSIT) TUBE CABLES	1500 METERS OR 5000 FEET
TRC (RISER) TUBE CABLES	1000 METERS OR 3300 FEET
TGX (GENERAL PURPOSE) TUBE CABLES TPX (PLENUM) TUBE CABLES TP2 (PLENUM) TUBE CABLES	600 METERS OR 1950 FEET
24-FIBER BUNDLES (3MM OD) SEE MANUAL FOR FB ABOVE 3MM	**APPROX. BLOWING DISTANCE**
ALL OSP TUBE CABLES MTX (MASS TRANSIT) TUBE CABLES	1200 METERS OR 4000 FEET
TRC (RISER) TUBE CABLES	1000 METERS OR 3300 FEET
TGX (GENERAL PURPOSE) TUBE CABLES TPX (PLENUM) TUBE CABLES TP2 (PLENUM) TUBE CABLES	300 METERS OR 1000 FEET

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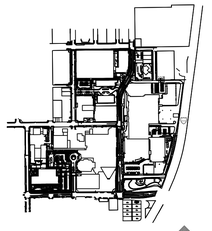

KEY PLAN

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STATE OF TEXAS
WILLIAM H. MASTERS
93374
REGISTERED PROFESSIONAL ENGINEER

BURNS ENGINEERING F-4827
09/12/2025

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No. Date Revision

Project Title:

JOHN PETER SMITH (JPS) CAMPUS
OPTICAL FIBER LOOP

Drawing Title:

TECHNOLOGY
ABF DO'S AND DONT'S

Date: 09/12/2025
Scale: 1"=100'
Drawn: GF
Checked: MH/PG
Job No: 2024-0287

Drawing No:

TC001

ABF DO'S AND DON'TS CONTINUED

BEGIN BLOWING OPERATIONS (REF: SRP SP-F04-002)

DO'S

FOR TUBE SPANS 500+ FEET IN LENGTH, START WITH OPERATING PRESSURES AS FOLLOWS:
- AIR FLOW PRESSURE AT 85-90 PSI (USE LESS PRESSURE IF SPAN IS SHORTER); ADJUST AT PRESSURE REGULATOR
- AIR MOTOR PRESSURE AT 85-90 PSI; ADJUST AT FILTER / REGULATOR ASSEMBLY

ALWAYS START AIR MOTOR SLOWLY AND THEN INCREASE SPEED

ALWAYS USE PROPER BLOWING HEAD OPERATOR TECHNIQUES BY KEEPING:
- 2 HANDS ON MOTOR RATE CONTROL VALVE FOR QUICK REACTION / SHUT OFF IF NECESSARY
- 2 EYES ON 8MM CLEAR TUBE WATCHING FIBER BUNDLE PERFORMANCE; NO WAVING & SNAKING
- 2 EARS OPEN LISTENING TO AIR MOTOR PERFORMANCE; GOOD SOUND & NOT "LUGGING"DOWN

ADJUST OPERATING PRESSURES AND SPEEDS BASED ON FIBER BUNDLE BLOWING PERFORMANCE; INCREASE AIR FLOW PRESSURE GRADUALLY (IN 10 PSI INCREMENTS) AS NECESSARY TO ACHIEVE SMOOTH INSTALLATION PERFORMANCE

ADJUST AIR MOTOR SPEED TO MATCH FIBER BUNDLE INSTALLATION SPEED TO PROLONG LIFE OF FIBER BUNDLE DRIVE WHEELS; DECREASES WEAR ON DRIVE WHEELS

WATCH PAYOFF COUNTER DURING BLOWING OPERATIONS; REGISTERS FIBER BUNDLE INSTALLATION DISTANCE IN METERS (MULTIPLE BY "3" TO CONVERT TO APPROXIMATE FOOTAGE)

WATCH GAS BOTTLE SUPPLY PRESSURE GAUGE DURING BLOWING OPERATIONS; BOTTLE IS NEAR EMPTY WHEN GAUGE READS ABOUT 400 PSI

DONT'S

DO NOT EXCEED 200 PSI AIR FLOW AND 100 PSI AIR MOTOR PRESSURES

NEVER START FIBER BUNDLE BLOWING OPERATIONS UNTIL GOOD AIR FLOW IS CONFIRMED AT EXIT POINT OF TUBE SPAN

NEVER PLAY WITH OR BLOCK AIR FLOW ESCAPE AT EXIT END OF TUBE SPAN

DO NOT BE IN A HURRY; BEGIN BLOWING OPERATIONS WITH LOW PRESSURES AND SLOW SPEEDS FOR BEST RESULTS

DO NOT USE TOO MUCH PRESSURE; OFTEN RESULTS IN A BACK-PRESSURE SITUATION THAT WASTES GAS AND CAN CAUSE INSTALLATION SPEEDS TO ACTUALLY DECREASE

DO NOT WASTE GAS BOTTLE SUPPLY; SECURE WHEN NOT IN USE

COMPLETING BLOWING OPERATIONS (REF: SRP SP-F04-002)

DO'S

AT FIBER BUNDLE EXIT POINT, BLOW OUT ABOUT 10 - 15 FEET OF FIBER BUNDLE FOR TERMINATION PURPOSES; MORE OR LESS LENGTH IF REQUIRED / DESIRED

AT FIBER BUNDLE ENTRY POINT, ALWAYS USE CARE WHEN PULLING ABOUT 10 - 15 FEET OF FIBER BUNDLE FROM REEL FOR TERMINATION PURPOSES; MORE OR LESS LENGTH IF REQUIRED / DESIRED

ALWAYS UNLOAD FIBER BUNDLE FROM BLOWING HEAD CAREFULLY

ALWAYS USE SPECIAL CARE WHEN REMOVING AIR SEAL FROM AROUND FIBER BUNDLE AND UNCOUPLING TUBING

ALWAYS HANDLE EXPOSED FIBER BUNDLE WITH UTMOST CARE

ALWAYS COIL AND STORE EXPOSED FIBER BUNDLE IN PROTECTED AREAS WHEN BLOWING OPERATIONS ARE COMPLETE

ALWAYS SEAL OPEN END OF OCCUPIED TUBES WITH 2MM OR 3MM FIBER BUSHINGS

ALWAYS RE-INSTALL FIBER BUNDLE REEL PROTECTIVE COVER (CLAMSHELL) AFTER BLOWING OPERATIONS ARE COMPLETE

DONT'S

NEVER USE EXCESS FORCE TO "PULL" FIBER BUNDLE; POSSIBLE DAMAGE TO FIBER OPTIC STRANDS CAN RESULT

DO NOT WASTE GAS BOTTLE SUPPLY; SECURE BOTTLE WHEN BLOWING OPERATIONS ARE COMPLETE

DO NOT LOSE FIBER BUNDLE BLOWING TIP; LEAVE INSTALLED ON END OF FIBER BUNDLE AND CUT OFF ABOUT A 3 - 6 INCH LENGTH OF FIBER BUNDLE FOR STORAGE

FIBER BUNDLE TERMINATION

DO'S

AT FIBER BUNDLE EXIT POINT, BLOW OUT ABOUT 10 - 15
ALWAYS USE ESTABLISHED SAFETY PRECAUTIONS WHEN HANDLING AND WORKING WITH FIBER OPTIC STRANDS; WEAR APPROPRIATE PERSONAL SAFETY EQUIPMENT

ALWAYS STRIP FIBER BUNDLE JACKET AND NYLON SUB-UNITS IN ACCORDANCE WITH SRP SP-F0-006 PROCEDURES USING PROPER TOOLS AND TECHNIQUES

ALWAYS STRIP FIBER BUNDLE LENGTH TO AT LEAST 6 -8 INCHES BEYOND THAT OF FIELD TERMINATION KITBUFFER TUBE LENGTH

ALWAYS MAKE SURE POLYESTER RIPCORD IS NEXT TO BLUE STRAND FIBER BEFORE PULLING SUB-UNIT RIPCORDS IN 6-STRAND AND 24-STRAND FIBER BUNDLES; RISK OF BREAKING STRANDS OTHERWISE

ALWAYS USE A PROPER WORK SURFACE AND STAY ORGANIZED DURING FIBER TERMINATION WORK

DONT'S

NEVER "ROUGH HANDLE" FIBER BUNDLE OR BARE STRANDS; USE TOOLS CAREFULLY, PULL RIPCORDS SLOW AND STEADY, ETC.

DO NOT EXCEED 1.5-INCH MINIMUM BEND RADIUS ON ANY FIBER BUNDLE

DO NOT INTRODUCE TWISTING OF THE STRANDS INSIDE FIELD TERMINATION KIT SPLITTER BOX; RISK OF MACRO-BENDING AND INCREASED ATTENUATION

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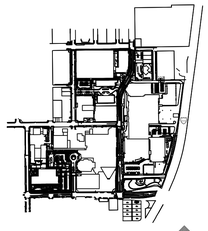

KEY PLAN

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STATE OF TEXAS
WILLIAM H. MASTERS
93374
REGISTERED PROFESSIONAL ENGINEER

BURNS ENGINEERING F-4827
09/12/2025

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No.	Date	Revision

Project Title:

JOHN PETER SMITH (JPS) CAMPUS OPTICAL FIBER LOOP

Drawing Title:

TECHNOLOGY ABF DO'S AND DONT'S

Date:	09/12/2025
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Job No:	2024-0287

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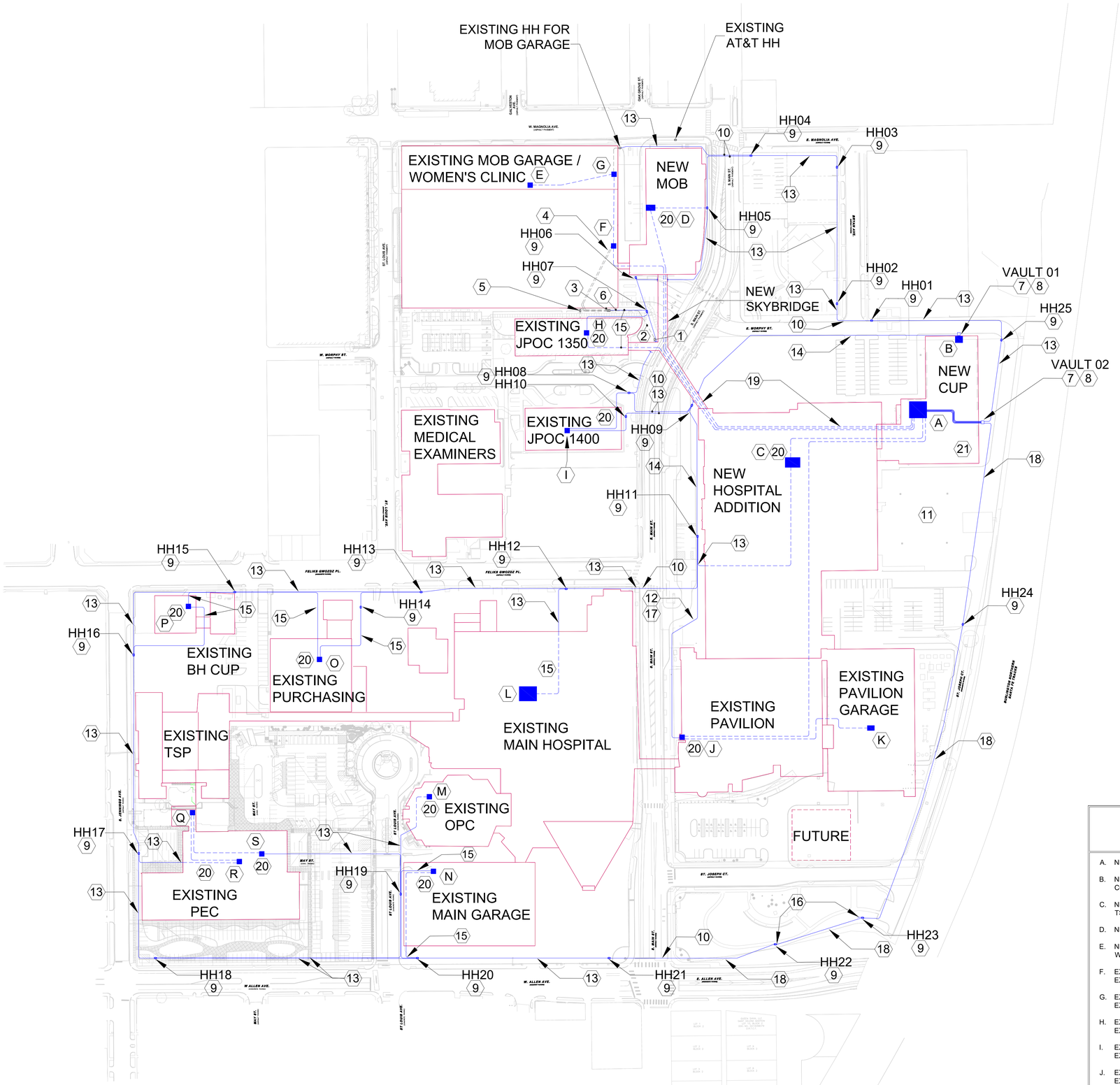
TC002



ABF CAMPUS RING INFRASTRUCTURE - A & B SIDE

TC101

GENERAL NOTES

- CONFIRM EXISTING CONDITIONS IN THE FIELD PRIOR TO PERFORMING ANY WORK.
- EXISTING BUILDINGS ARE TO REMAIN OPERATIONAL THROUGHOUT CONSTRUCTION. COORDINATE ANY UNFORESEEN OUTAGES WITH THE JPS I.T. MANAGER PRIOR TO PERFORMING THE WORK.
- REFER TO CIVIL AND STRUCTURAL ENGINEERING DRAWINGS FOR ADDITIONAL INFORMATION FOR NEW AREAS.
- COORDINATE COMMUNICATION PATHWAY SYSTEMS WITH OTHER UTILITIES PRIOR TO INSTALLATION.
- COORDINATE ENTRY INTO THE BUILDING WITH JPS PDC, CIVIL AND STRUCTURAL ENGINEERS PRIOR TO INSTALLATION.
- LABEL ALL UNDERGROUND CONDUIT AS "SIGNAL" WITH BRASS TAG.
- REFER TO HAND HOLE / VAULT DETAILS FOR SPECIFICATIONS ON CONDUIT PENETRATIONS, INCLUDING REQUIRED QUANTITIES AND ADDITIONAL INSTALLATION REQUIREMENTS.

KEYNOTES

1. EXISTING TO REMAIN AT&T HH.
2. EXISTING TO REMAIN AT&T CONDUIT AND FIBER.
3. EXISTING TO REMAIN HH FOR GARAGE FROM JPOC 1350.
4. EXISTING TO REMAIN (2) 4" CONDUITS FROM NEW HH TO EXISTING HH.
5. EXISTING TO REMAIN HH TO JPOC 1350 MDF.
6. INSTALL (2) 4" CONDUITS WITH ONE (1) 19-TUBE ABF MICRO DUCT FROM NEW HH A06 VIA EXISTING JPS HH TO JPOC MDF.
7. INSTALL (6) 4" CONDUITS FROM CUP ENTRY ROOM TO VAULT.
8. FURNISH & INSTALL MINIMUM 6'X6'X6' CONCRETE VAULT WITH ELECTRIC SUMP, TRAFFIC RATED TIER 22. REFER TO DETAILS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
9. FURNISH & INSTALL HH. REFER TO DETAILS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
10. PROVIDE SINGLE BORE CROSSING WITH SUFFICIENT WIDTH TO ACCOMMODATE CONDUIT QUANTITIES. ENSURE BORE DIAMETER ALLOWS FOR PROPER SPACING, INSTALLATION, AND FUTURE ACCESSIBILITY.
11. PROPOSED SERVICE YARD.
12. REFER TO ENABLING PACKAGE DRAWINGS (TEMPORARY AMBULATORY DRIVE) FOR CONDUIT PATHWAY/ROUTING.
13. INSTALL (1) 4" CONDUITS & (1) 4" SPARE CONDUIT.
14. INSTALL (2) 4" CONDUITS & (1) 4" SPARE CONDUIT.
15. INSTALL (1) 4" CONDUIT.
16. INSTALL AND STUB (2) 4" CONDUITS 3-FEET FROM HH AND CAP FOR FUTURE USE FOR FUTURE BUILDING.
17. REFER TO ENABLING PACKAGE DRAWINGS (TEMPORARY AMBULATORY DRIVE) FOR CONDUIT REQUIREMENTS.
18. ENABLING PACKAGE FOR POWER/WATER. INSTALL (4) 4" CONDUITS.
19. INSTALL AND ROUTE (2) 4" CONDUIT. TO BE INSTALLED THROUGH NEW CUP, NEW HOSPITAL, AND NEW SKYBRIDGE. ALL PATHWAYS TO BE ABOVE GROUND, ROUTED THROUGH INTERIOR SPACES OF BUILDINGS AND SKYBRIDGE TO TDR(IDF).
20. CONDUIT WITHIN ANY INTERIOR SPACE OF BUILDING 'BY OTHERS'.
21. NEW CUP DATA COMMUNICATIONS ROOM - LEVEL 3.

TSER (MDF) / TDR (IDF) KEYNOTE LOCATIONS

A. NEW LEVEL 1 CUP MDF/DEMARC.

B. NEW LEVEL 3 CUP - DATA & COMMUNICATIONS CENTER.

C. NEW LEVEL 3 HOSPITAL ADDITION TSER.

D. NEW LEVEL 1 MOB TSER.

E. NEW LEVEL 1 HEALTH CENTER FOR WOMEN'S CLINIC IDF.

F. EXISTING TO REMAIN LEVEL 1 EXISTING GARAGE MDF.

G. EXISTING TO REMAIN LEVEL 1 EXISTING GARAGE DEMARC.

H. EXISTING TO REMAIN LEVEL 1 EXISTING JPOC 1350 MDF.

I. EXISTING TO REMAIN LEVEL 1 EXISTING JPOC 1400 MDF.

J. EXISTING TO REMAIN LEVEL 1 EXISTING PAVILION MDF.

K. EXISTING TO REMAIN LEVEL 1 EXISTING GARAGE PAVILION IDF.

L. EXISTING TO REMAIN LOWER LEVEL EXISTING MAIN HOSPITAL DATA CENTER.

M. EXISTING TO REMAIN LEVEL 2/4 EXISTING OPC IDF.

N. EXISTING TO REMAIN LEVEL 1 EXISTING MAIN GARAGE IDF.

O. EXISTING TO REMAIN LEVEL 1 EXISTING PURCHASING MDF.

P. EXISTING TO REMAIN LEVEL 1 EXISTING BH CUP IDF.

Q. EXISTING TO REMAIN LEVEL 1 EXISTING TSP/PEC CONNECTOR MDF.

R. EXISTING TO REMAIN LEVEL 1 EXISTING PEC MDF.

S. EXISTING TO REMAIN LEVEL 1 EXISTING PEC IDF.

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KEY PLAN

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REGISTERED
PROFESSIONAL ENGINEER

BURNS ENGINEERING F-4827
09/12/2025

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No.	Date	Revision

Project Title:

JOHN PETER SMITH (JPS) CAMPUS OPTICAL FIBER LOOP

Drawing Title:

TECHNOLOGY CAMPUS SITE PLAN

Date:	09/12/2025
Scale:	1"=100'
Drawn:	GF
Checked:	MH/PG
Job No:	2024-0287

Drawing No:

TC101

ABF CAMPUS RING SIDE-A PATHWAY

TC102

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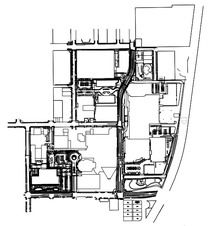

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Drawing No:

TC102

ABF CAMPUS RING SIDE-B PATHWAY

TC103

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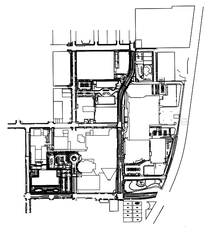

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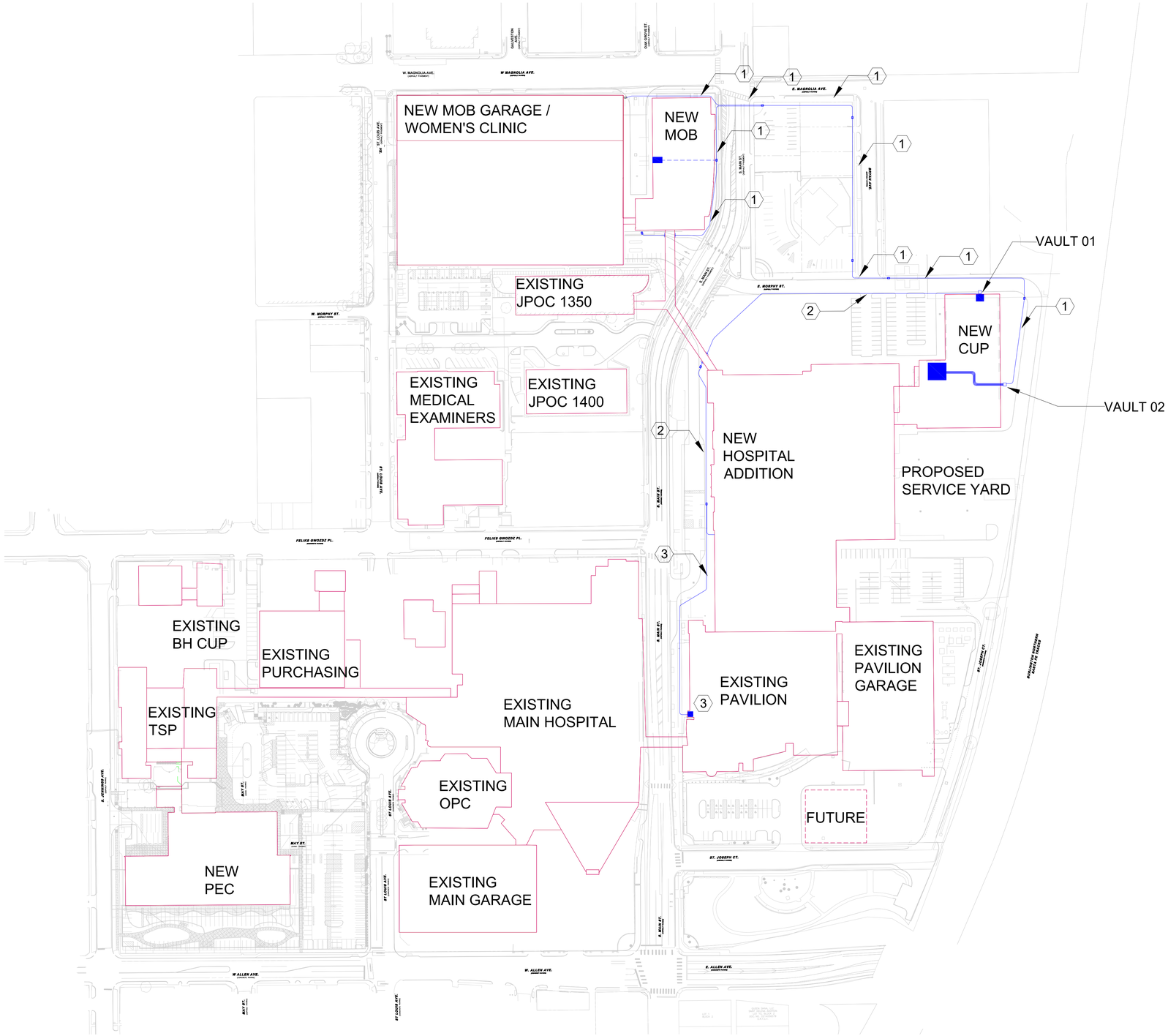
TC103



JPS MFP ABF CAMPUS RING SCOPE INFRASTRUCTURE

TC104

GENERAL NOTES

A. CONFIRM EXISTING CONDITIONS IN THE FIELD PRIOR TO PERFORMING ANY WORK.

B. EXISTING BUILDINGS ARE TO REMAIN OPERATIONAL THROUGHOUT CONSTRUCTION. COORDINATE ANY UNFORESEEN OUTAGES WITH THE JPS I.T. MANAGER PRIOR TO PERFORMING THE WORK.

C. REFER TO CIVIL AND STRUCTURAL ENGINEERING DRAWINGS FOR ADDITIONAL INFORMATION FOR NEW AREAS.

D. COORDINATE COMMUNICATION PATHWAY SYSTEMS WITH OTHER UTILITIES PRIOR TO INSTALLATION.

E. COORDINATE ENTRY INTO THE BUILDING WITH JPS PDC, CIVIL AND STRUCTURAL ENGINEERS PRIOR TO INSTALLATION.

F. LABEL ALL UNDERGROUND CONDUIT AS "SIGNAL" WITH BRASS TAG.

G. REFER TO HAND HOLE / VAULT DETAILS FOR SPECIFICATIONS ON CONDUIT PENETRATIONS, INCLUDING REQUIRED QUANTITIES AND ADDITIONAL INSTALLATION REQUIREMENTS.

KEYNOTES

1. INSTALL (1) 4" CONDUITS & (1) 4" SPARE CONDUIT.
2. INSTALL (2) 4" CONDUITS & (1) 4" SPARE CONDUIT.
3. REFER TO ENABLING PACKAGE DRAWINGS (TEMPORARY AMBULATORY DRIVE) FOR ADDITIONAL INFORMATION.

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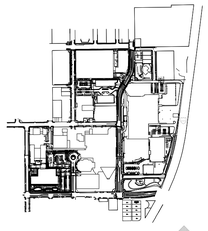

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JOHN PETER SMITH (JPS) CAMPUS OPTICAL FIBER LOOP

Drawing Title:

TECHNOLOGY JPS MFP CAMPUS SITE PLAN

Date:	09/12/2025
Scale:	1"=100'
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Job No:	2024-0287

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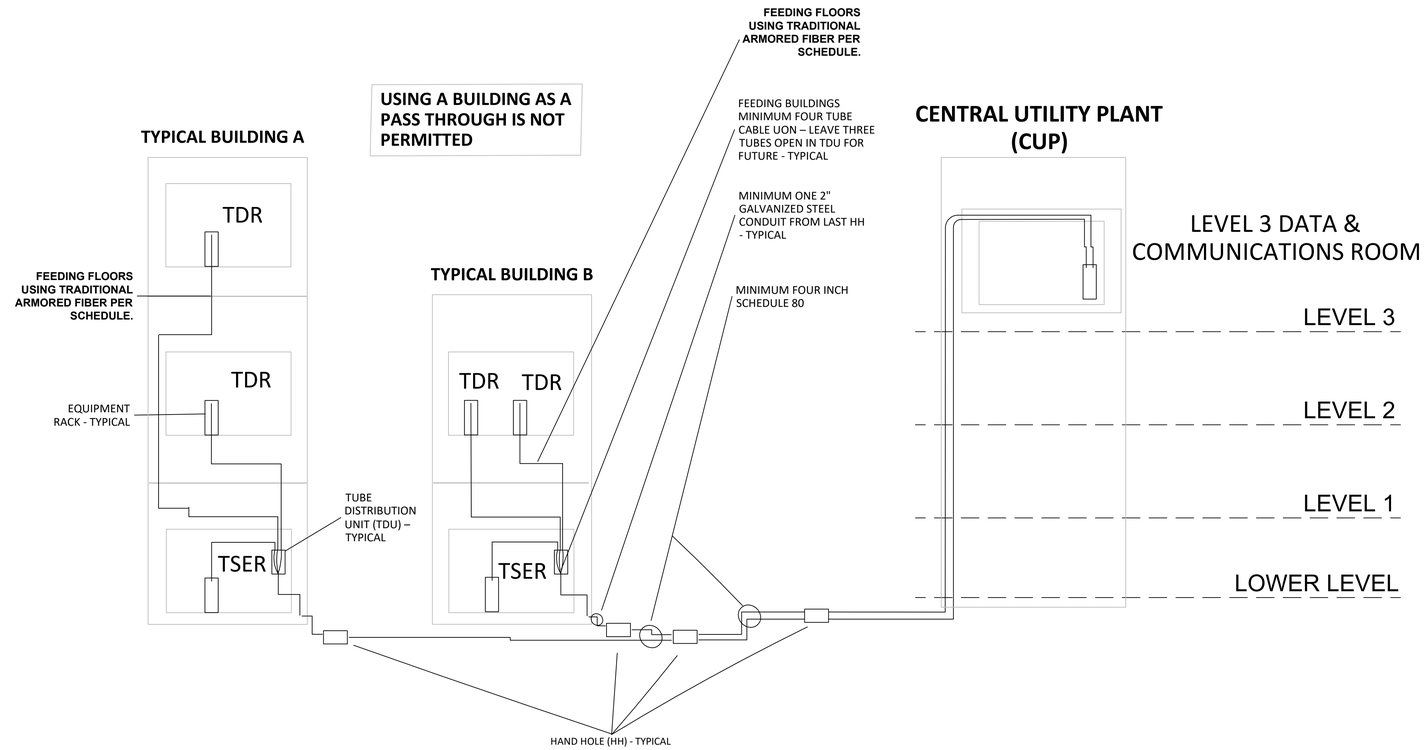
TC104



D 1 TC501 FIBER OPTIC RISER DIAGRAM

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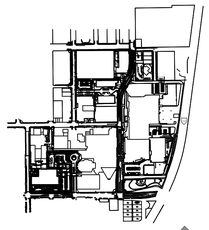

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TC501

FutureFLEX® TCxxTOX / TCxxTOD DIELECTRIC (OSP) TUBE CABLE SERIES

CONSTRUCTION				
SEL Part Number	Product Description	Outside Diameter Inches – (mm)	Max. Weight (lbs./kft..)	Max. Tensile Load (lbs.)
TC01TOX	1 - Tube, Water Blocking Tape, Black Polyethylene Outer Jacket	0.53 - (13.5)	59	200
TC02TOX	2 - Tubes, Water Blocking Tape, Ripcord, Black Polyethylene Outer Jacket	0.81 - (20.6)	90	200
TC04TOD	4 - Tubes, HDPE Central Member, Water Blocking Tape, Ripcord, Black Polyethylene Outer Jacket	0.94 - (23.9)	146	400
TC07TOX	7 - Tubes, Water Blocking Tape, Ripcord, Black Polyethylene Outer Jacket	1.14 - (29.0)	203	400
TC12TOX	12 - Tubes, Water Blocking Tape, Ripcord, Black Polyethylene Outer Jacket	01.46 - (37.1)	300	400
TC19TOX	19 - Tubes, Water Blocking Tape, Ripcord, Black Polyethylene Outer Jacket	1.77 - (45.0)	444	500
TC24TOX	24 - Tubes, Water Blocking Tape, Ripcord, Black Polyethylene Outer Jacket	2.0 - (50.8)	650	500

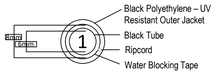
Tube Construction: High-Performance Black Polyethylene. **Tube Diameters:** O.D. 8mm, I.D. 6mm
TCxxTOX and TC04TOD: Designed for all normal OSP environments in duct and in direct buried applications.
Tube Cable Ends: Both ends of the tube cable are accessible on the reel. Each tube is sealed with a plastic cap or plug. Tube cable ends are sealed with a heat shrink end cap.
Reel Markings: The outside of each flange is marked with the Sumitomo Electric Lightwave Corp. product part number, the tube cable manufactured length in feet, and the text "*Do Not Lay Flat*" and "*Forklift from Flanges Only*."

TUBE CABLE (1000ft. 3000ft.) REEL LENGTHS								
SEL Part Number	Reel F x W (Inches)		Minimum Drum Diameter (Inches)		Empty Reel Weight (lbs.)		Full Reel Weight (lbs.)	
	1000ft.	3000ft.	1000ft.	3000ft.	1000ft.	3000ft.	1000ft.	3000ft.
TC01TOX	54 x 16	60 x 42	40	40	116	420	175	597
TC02TOX	54 x 16	60 x 42	40	40	116	420	203	682
TC04TOD	54 x 16	60 x 42	40	40	116	420	253	831
TC07TOX	54 x 32	60 x 42	40	40	137	420	342	1035
TC12TOX	60 x 42	72 x 45	40	36	420	543	720	1443
TC19TOX	60 x 42	72 x 45	40	36	420	543	863	1872
* TC24TOX	72 x 45	* 72 x 45	36	* 36	543	*543	1193	* 2493

*** NOTE: TC24TOX:** is only available in 1000ft. and 2000ft. Reel Sizes.

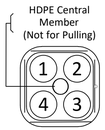
TUBE CABLE MARKINGS: The outside surface of each jacketed cable is marked every two (2) feet with the following product identification information:
SEL FutureFLEX® (SEL Part No.) (#)-Tube Dielectric OSP Optical Fiber Cable, A-(Lot #-1, -2, -3, etc.) (Seq. Ftg.) 1-877-356-FLEX WWW.SUMITOMOELECTRICLIGHTWAVE.COM

PERFORMANCE	
Property	Specification
Operation Temperature Range	-40°F to +158°F (-40°C to +70°C) [per ICEA 640]
Minimum Bend Radius During / After Installation	During Installation –X Cable O.D. After Installation –X Cable O.D.



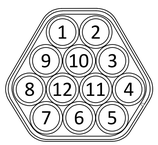
TC01TOX

TC02TOX

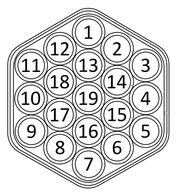


TC04TOD

TC07TOX

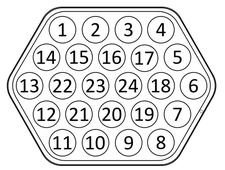


TC12TOX



TC19TOX

All Drawings Not to Scale



TC24TOX

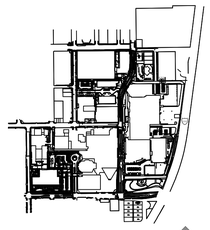
All Drawings Not to Scale

D 1 TC502 ABF TUBE SIZING CHART AND PART NUMBERS DETAIL

Burns

BURNS ENGINEERING, INC. | 407 214-6412
201 SOUTH ORANGE AVENUE SUITE 940
ORLANDO, FL 32801

JPS HEALTH HOSPITAL | 817-702-3431
1500 s. Main Str.
Fort Worth, TX 76104



KEY PLAN N

BURNS ENGINEERING F-4827
09/12/2025

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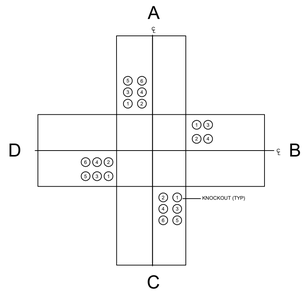
No. Date Revision

Project Title:
JOHN PETER SMITH (JPS) CAMPUS OPTICAL FIBER LOOP

Drawing Title:
TECHNOLOGY DETAILS

Date: 09/12/2025
Scale: 1"=100'
Drawn: GF
Checked: MH/PG
Job No: 2024-0287
Drawing No:
TC502



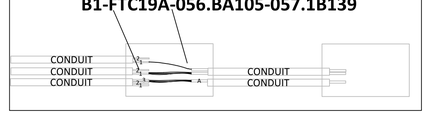
GENERAL NOTES:

1. ALL CONDUITS MUST EXIT A HH FROM THE OPPOSITE END ON WHERE ENTERED. HH'S SHALL NOT BE USED AS A 90-DEGREE TURN.

D 1 TC503 TYPICAL HANDHOLE BUTTERFLY LAYOUT DETAIL

INSIDE HAND HOLE FIBER BUNDLE LABELING SCHEME

B1-FTC19A-056.BA105-057.1B139



FIBER TUBE LABELING SCHEME

B1-FTC19A-056.BA105-057.1B139

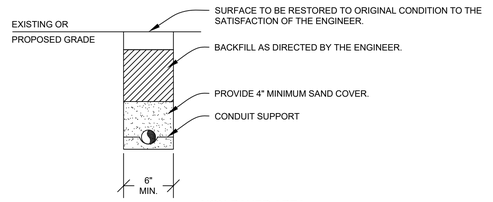
TUBE BUNDLE NUMBER | FIBER TUBE CABLE IN BUNDLE | ORIGIN BUILDING | ORIGIN ROOM | DESTINATION BUILDING | DESTINATION TR ROOM

FIBER TUBE LABELING SCHEME IF MORE THAN ONE TDU ON PATH

B1-FTC19A-056.BA105-057-TDU1.1B139

TUBE BUNDLE NUMBER | FIBER TUBE CABLE IN BUNDLE | ORIGIN BUILDING | ORIGIN ROOM | DESTINATION BUILDING | DESTINATION TDU | DESTINATION TR ROOM

D 2 TC503 ABF LABELING SCHEMA DETAIL



NON-PAVED AREA

GENERAL NOTES:

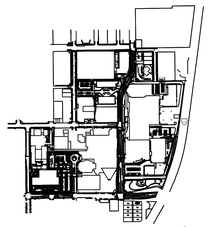
1. TRENCH DEPTH SHALL BE 24" MINIMUM. SHOULD CONDITIONS NOT ALLOW FOR 24" MINIMUM DEPTH, THE CONDUIT SHALL BE CONCRETE (CLASS "A") ENCASED IN ALL APPLICATIONS.
2. SCHEDULE 80 PVC CONDUIT SHALL BE USED IN ALL APPLICATIONS AND SHALL USE "LONG SWEEP" RADIUS BENDS.
3. TYPE 2 WARNING TAPE SHALL BE INSTALLED IN ALL TRENCHES AT 12" BELOW FINISHED GRADE.
4. REFER TO CIVIL & TELECOM SITE PLANS FOR REQUIRED FINISHING.
5. CONDUIT SHALL BE SLOPED TOWARDS HAND HOLE FOR DRAINAGE.

D 3 TC503 TRENCHING AND CONDUIT PLACEMENT DETAIL

Burns

BURNS ENGINEERING, INC.| 407 214-6412
201 SOUTH ORANGE AVENUE SUITE 940
ORLANDO, FL 32801

JPS HEALTH HOSPITAL| 817-702-3431
1500 s. Main Str.
Fort Worth, TX 76104



KEY PLAN

N

BURNS ENGINEERING F-4827
09/12/2025

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No.	Date	Revision

Project Title:

JOHN PETER SMITH (JPS) CAMPUS OPTICAL FIBER LOOP

Drawing Title:

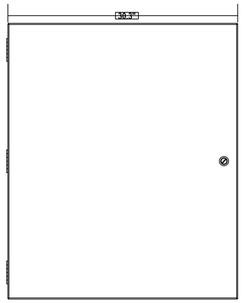
TECHNOLOGY DETAILS

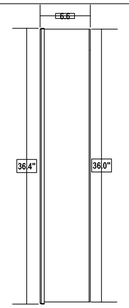
Date:	09/12/2025
Scale:	1"=100'
Drawn:	GF
Checked:	MH/PG
Job No:	2024-0287

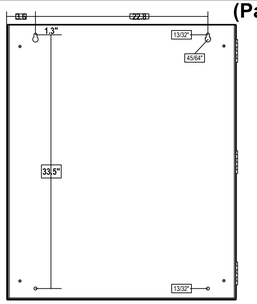
Drawing No:

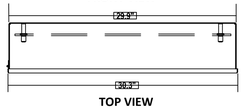
TC503

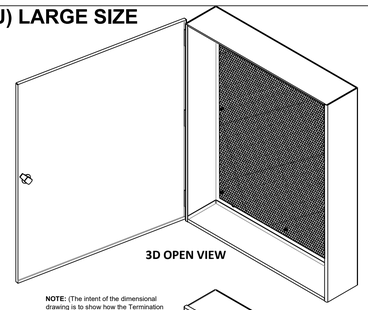
(Part-No. – DE36IDU) LARGE SIZE



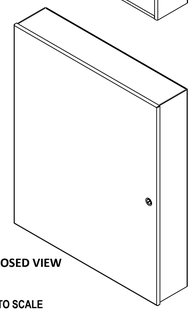






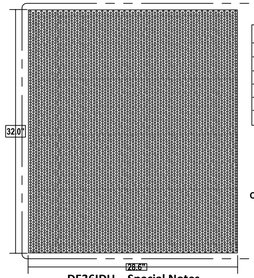


NOTE: (The intent of the dimensional drawing is to show how the Termination Unit Hardware may be configured or assembled and does not represent a fully configured or assembled Termination Unit.)



DRAWINGS NOT TO SCALE

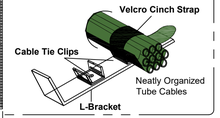
Perforated Back Panel Kit - (Optional)



DE36IDUP – Back Panel Kit Contents

QTY	DESCRIPTION
~~(1)~~	~~16 Gauge Steel Perforated Back Panel~~
(10)	Aluminum L-Brackets
(28)	Cable Tie Clips
~~(28)~~	~~Velcro Cinch Straps~~
~~(25)~~	~~3/8" Phillips Pan Head Self-Tap Screws~~
(25)	1/4" Phillips Pan Head Self-Tap Screws

Assembly Instructions included



DE36IDU OVERVIEW

Scalable and flexible design, Tube Distribution Units are wall-mounted enclosures used at tube cable transitions or branching locations. Tubes are joined together using push-fit connectors. The result is a pathway capable of housing and protecting multi-strand fiber bundles designed and installed to support todays critical, robust and scalable high speed networks.

DE36IDU - PHYSICAL CHARACTERISTICS

Part-Number	Description	Dimensions	Weight	Material	Color
DE36IDU	NEMA-1 Indoor Wall Mounted Tube Distribution Unit (TDU)	36"Hx30"Wx6.5"D	70lbs.	Steel	Gray

DE36IDU – (OPTIONAL ACCESSORIES)

Part-Number	Description	Dimensions	Weight	Material	Color
DE36IDUP	Perforated Back Panel Kit	32"Hx28.6"W	Approx. 8lbs.	Steel	Gray
DEIDUKEY	Keyed Cylinder Lock Kit with 2 Keys for both DE20/36IDU				
DEIDUKEY2	Extra / Replacement Keys for Cylinder Lock Kit DEIDUKEY: 1-pair.				

DE36IDU – Special Notes

This Tube Distribution Unit is provisioned with a hinged door secured with a slotted latch. Tools and Equipment Required: (hole punch, cable clamps, cable fittings) are not included. The Perforated Back Panel and Keyed Lock are optional accessories and may be purchased separately.

Refer SEL Document:
SRP SP-F04-005 for Installation Guidance

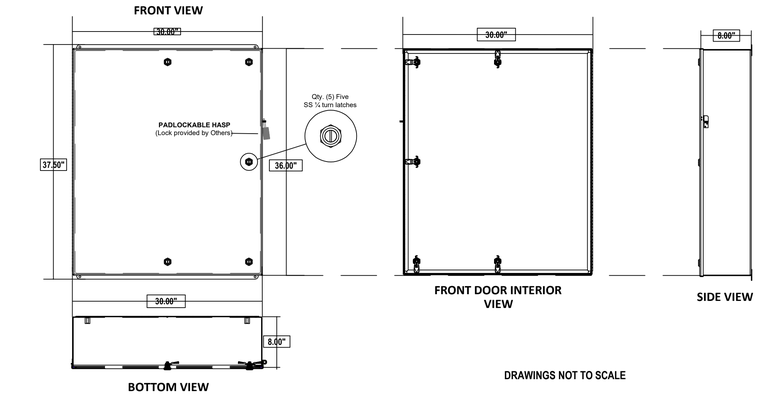
FOR ADDITIONAL INFORMATION:
Call: 1-877-356-FLEX or visit
WWW.SUMITOMOELECTRICLIGHTWAVE.COM

MATERIAL: STEEL

FINISH: GRAY PAINT

WEIGHT: 70 LBS.

D 1 / TC504 — NEMA-1 INDOOR WALL MOUNT TUBE DISTRIBUTION UNIT (TDU)



INDUSTRY STANDARDS

UL 508A Listed; Type 3R, 4, 4X, 12; File No. E61997
cUL Listed per CSA C22.2 No 94; Type 3R, 4, 4X, 12

APPLICATION

Lightweight enclosure protects components and controls in corrosive indoor or outdoor environments such as traffic, outside plant, telecommunications and marine environments.

DE36XPPU OVERVIEW

Scalable and flexible design, Aluminum Tube Distribution Units are lightweight wall or structure-mounted enclosures with external top and bottom mounting flanges used at tube cable transitions or branching locations. Provided with hinged door secured with hasp and staple. A padlock provision is provided; Customer/Installer-provided lock required. Tubes are joined together using push-fit connectors. The result is a pathway capable of housing and protecting multi-strand fiber bundles designed and installed to support todays critical, robust and scalable high speed networks.

DE36XPPU - PHYSICAL CHARACTERISTICS

Part-Number	Description	Dimensions	Weight	Material	Color
DE36XPPU	NEMA-4X Outdoor Tube Distribution Unit (TDU)	36"Hx30"Wx8"D	39lbs.	Aluminum	Silver

(DATA SUBJECT TO CHANGE WITHOUT NOTICE)

DE36XPPU – Special Notes

This Tube Distribution Unit is provisioned with a hinged door secured with hasp and staple for padlocking. Tools and Equipment Required: (hole punch, cable clamps, cable fittings) are not included. Back Panels are an optional accessory and may be purchased separately.

ACCESSORIES

- Enclosure Lights
- Vent Drains, Type 4X
- Hole Seals
- Perforated Back Panels
- Swing-Out Panel Kit
- Fast-Operating Clamp Assembly

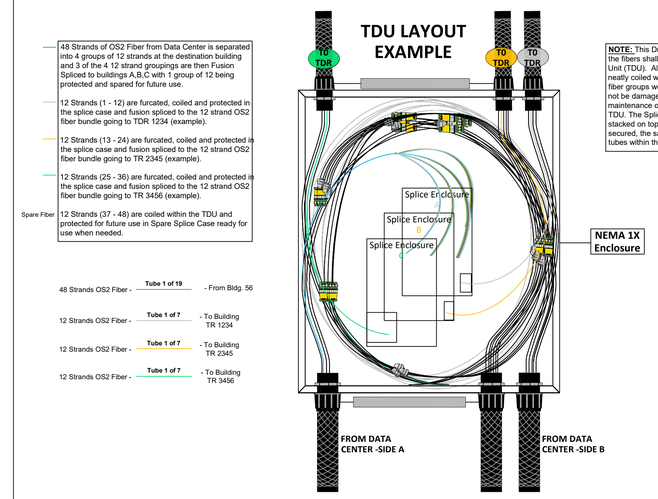
Refer SEL Document:
SRP SP-F04-005 for Installation Guidance

FOR ADDITIONAL INFORMATION:
Call: 1-877-356-FLEX or visit
WWW.SUMITOMOELECTRICLIGHTWAVE.COM

SPECIFICATIONS

- Type 5052-H32 aluminum, 0.08-in. (2-mm) thick
- Seams continuously welded and ground smooth
- Rolled lip around three sides of door and all sides of enclosure opening
- Hasp and staple for padlocking
- Stainless steel ¼ turn latch assemblies
- Door is easily removed by pulling stainless steel continuous hinge pin
- Weld Nuts provided for mounting optional panels
- Oil-resistant gasket
- Finish: Enclosures are unpainted. Door fronts have smooth brushed finish.

D 2 / TC504 — NEMA-4X OUTDOOR RATED ENCLOSURE (TDU)



48 Strands of OS2 Fiber from Data Center is separated into 4 groups of 12 strands at the destination building and 3 of the 4 12 strand groupings are then Fusion Spliced to buildings A,B,C with 1 group of 12 being protected and spared for future use.

12 Strands (1 - 12) are furcated, coiled and protected in the splice case and fusion spliced to the 12 strand OS2 fiber bundle going to TDR 1234 (example).

12 Strands (13 - 24) are furcated, coiled and protected in the splice case and fusion spliced to the 12 strand OS2 fiber bundle going to TR 2345 (example).

12 Strands (25 - 36) are furcated, coiled and protected in the splice case and fusion spliced to the 12 strand OS2 fiber bundle going to TR 3456 (example).

Spare Fiber — 12 Strands (37 - 48) are coiled within the TDU and protected for future use in Spare Splice Case ready for use when needed.

48 Strands OS2 Fiber - Tube 1 of 19 - From Bldg. 56

12 Strands OS2 Fiber - Tube 1 of 7 - To Building TR 1234

12 Strands OS2 Fiber - Tube 1 of 7 - To Building TR 2345

12 Strands OS2 Fiber - Tube 1 of 7 - To Building TR 3456

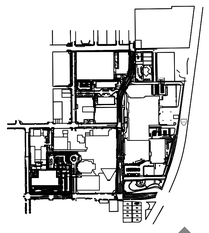
NOTE: This Drawing is a High Level overview of how the fibers shall be distributed from a Tube Distribution Unit (TDU). All Fibers shall be furcated, protected, neatly coiled with strain relief protection to ensure the fiber groups were secured in such a way that they will not be damaged or disturbed during routine maintenance or future work performed inside of the TDU. The Splice Enclosures (Cases) shall be properly stacked on top of each other, neatly labeled and tightly secured, the same would apply to the used and unused tubes within the enclosure.

D 3 / TC504 — (EXAMPLE) TDU SPLICE DETAIL

Burns

BURNS ENGINEERING, INC. | 407 214-6412
201 SOUTH ORANGE AVENUE SUITE 940
ORLANDO, FL 32801

JPS HEALTH HOSPITAL | 817-702-3431
1500 s. Main Str.
Fort Worth, TX 76104



KEY PLAN

N

STATE OF TEXAS
WILLIAM H. MASTERS
93374
REGISTERED PROFESSIONAL ENGINEER

BURNS ENGINEERING F-4827
09/12/2025

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No.	Date	Revision

Project Title:

JOHN PETER SMITH (JPS) CAMPUS OPTICAL FIBER LOOP

Drawing Title:

TECHNOLOGY DETAILS - NEMA ENCLOSURES / TDU SPLICE

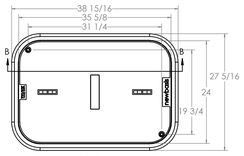
Date:	09/12/2025
Scale:	1"=100'
Drawn:	GF
Checked:	MH/PG
Job No:	2024-0287

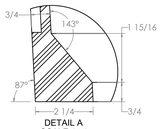
Drawing No:

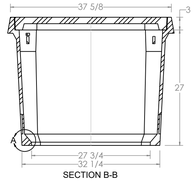
TC504

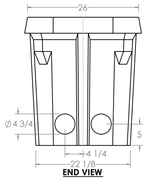
NOTES (UNLESS OTHERWISE SPECIFIED):

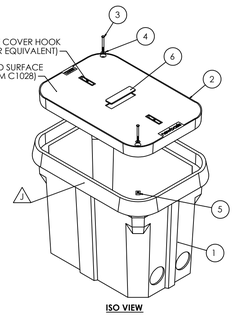
A. POLYMER CONCRETE ASSEMBLY
B. STRAIGHT SIDES
C. NO FLOOR
D. ANSI / SCTE 77 - T22
E. WUC 3.6
F. 3/8" SS HEX BOLTS
G. 1 PIECE, SKID RESISTANT COVER
H. STANDARD NAMEPLATE (BLANK) INSTALLED
I. (4) 4 3/4" CONDUIT KNOCKOUTS (2 EA END)
J. STAMP ASSEMBLY PART NUMBER AS SHOWN
K. ASSEMBLY WEIGHT: 345 LBS±5%
L. COMPLY WITH MANUFACTURE INSTALLATION GUIDELINES AND STANDARDS.
M. REFER TO CIVIL PLANS FOR REQUIRED FINISHING.
N. CONDUIT SHALL BE SLOPED TOWARDS HH FOR DRAINAGE.











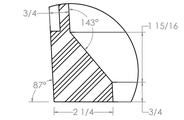
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	PCB2436350X20-002 PTB2436350X20-002	PC BOX	1
2	PCC2436A1A722	PC COVER	1
3	0239	3/8" SS HEX BOLT	2
4	0117	3/8" FLAT WASHER	2
5	01375	3/8" NUT	2
6	NP0008	BLANK NAMEPLATE	1

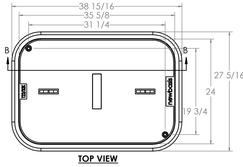
D | 1
TC505

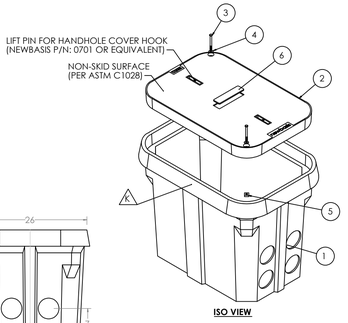
HANDHOLES 01,02,03,06,10,14,21,24,25 DETAIL

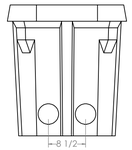
NOTES (UNLESS OTHERWISE SPECIFIED):

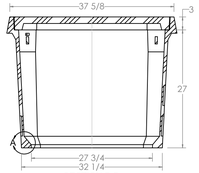
A.POLYMER CONCRETE ASSEMBLY
B.STRAIGHT SIDES
C.NO FLOOR
D.ANSI / SCTE 77 - T22
E.WUC 3.6
F.3/8" SS HEX BOLTS
G.1 PIECE, SKID RESISTANT COVER
H.STANDARD NAMEPLATE (BLANK) INSTALLED
I.(2) 4 3/4" CONDUIT KNOCKOUTS (1 END)
J.(4) 4 3/4" CONDUIT KNOCKOUTS (1 END)
KSTAMP ASSEMBLY PART NUMBER AS SHOWN
L.ASSEMBLY WEIGHT: 345 LBS±5%
M. COMPLY WITH MANUFACTURE INSTALLATION GUIDELINES AND STANDARDS.
N. REFER TO CIVIL PLANS FOR REQUIRED FINISHING.
O. CONDUIT SHALL BE SLOPED TOWARDS HH FOR DRAINAGE.

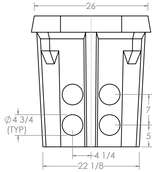












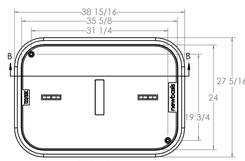
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	PCB2436350X20-003 PTB2436350X20-003	PC BOX	1
2	PCC2436A1A722	PC COVER	1
3	0239	3/8" SS HEX BOLT	2
4	0117	3/8" FLAT WASHER	2
5	01375	3/8" NUT	2
6	NP0008	BLANK NAMEPLATE	1

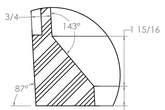
D | 2
TC505

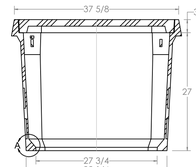
HANDHOLES 04,05,08,12,13,16,17,18,22,23 DETAIL

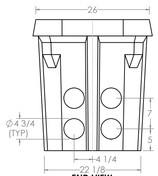
NOTES (UNLESS OTHERWISE SPECIFIED):

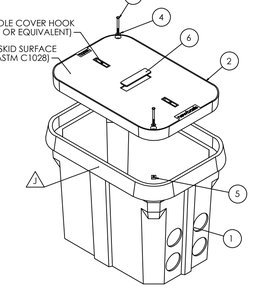
A. POLYMER CONCRETE ASSEMBLY
B. STRAIGHT SIDES
C. NO FLOOR
D. ANSI / SCTE 77 - T22
E. WUC 3.6
F. 3/8" SS HEX BOLTS
G. 1 PIECE, SKID RESISTANT COVER
H. STANDARD NAMEPLATE (BLANK) INSTALLED
I. (6) 4 3/4" CONDUIT KNOCKOUTS (2 EA END)
J. STAMP ASSEMBLY PART NUMBER AS SHOWN
K. ASSEMBLY WEIGHT: 345 LBS±5%
L. COMPLY WITH MANUFACTURE INSTALLATION GUIDELINES AND STANDARDS.
M. REFER TO CIVIL PLANS FOR REQUIRED FINISHING.
N. CONDUIT SHALL BE SLOPED TOWARDS HH FOR DRAINAGE.











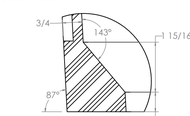
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	PCB2436350X20-004 PTB2436350X20-004	PC BOX	1
2	PCC2436A1A722	PC COVER	1
3	0239	3/8" SS HEX BOLT	2
4	0117	3/8" FLAT WASHER	2
5	01375	3/8" NUT	2
6	NP0008	BLANK NAMEPLATE	1

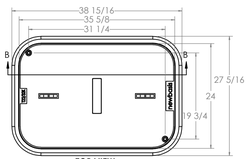
D | 3
TC505

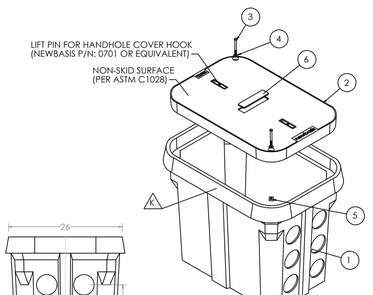
HANDHOLES 07, 15 DETAIL

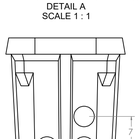
NOTES (UNLESS OTHERWISE SPECIFIED):

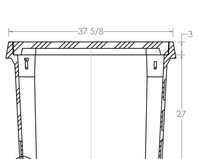
A.POLYMER CONCRETE ASSEMBLY
B.STRAIGHT SIDES
C.NO FLOOR
D.ANSI / SCTE 77 - T22
E.WUC 3.6
F.3/8" SS HEX BOLTS
G.1 PIECE, SKID RESISTANT COVER
H.STANDARD NAMEPLATE (BLANK) INSTALLED
I.(3) 4 3/4" CONDUIT KNOCKOUTS (1 END)
J.(6) 4 3/4" CONDUIT KNOCKOUTS (1 END)
KSTAMP ASSEMBLY PART NUMBER AS SHOWN
L.ASSEMBLY WEIGHT: 345 LBS±5%
M. COMPLY WITH MANUFACTURE INSTALLATION GUIDELINES AND STANDARDS.
N. REFER TO CIVIL PLANS FOR REQUIRED FINISHING.
O. CONDUIT SHALL BE SLOPED TOWARDS HH FOR DRAINAGE.

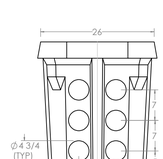












ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	PCB2436350X20-005 PTB2436350X20-005	PC BOX	1
2	PCC2436A1A722	PC COVER	1
3	0239	3/8" SS HEX BOLT	2
4	0117	3/8" FLAT WASHER	2
5	01375	3/8" NUT	2
6	NP0008	BLANK NAMEPLATE	1

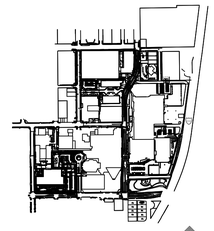
D | 4
TC505

HANDHOLE 09 DETAIL

Burns

BURNS ENGINEERING, INC. | 407 214-6412
201 SOUTH ORANGE AVENUE SUITE 940
ORLANDO, FL 32801

JPS HEALTH HOSPITAL | 817-702-3431
1500 s. Main Str.
Fort Worth, TX 76104



KEY PLAN

N

BURNS ENGINEERING F-4827
09/12/2025

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No.	Date	Revision

Project Title:

JOHN PETER SMITH (JPS) CAMPUS OPTICAL FIBER LOOP

Drawing Title:

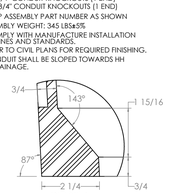
TECHNOLOGY DETAILS - HANDHOLE'S

Date: 09/12/2025
Scale: 1"=100'
Drawn: GF
Checked: MH/PG
Job No: 2024-0287

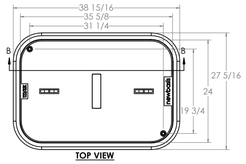
Drawing No:

TC505

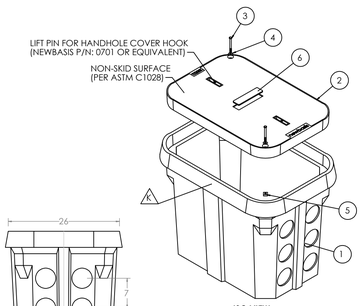
NOTES (UNLESS OTHERWISE SPECIFIED):
A. POLYMER CONCRETE ASSEMBLY
B. STRAIGHT SIDES
C. NO FLOOR
D. ANSI / SCTE 77 - T22
E. WUC 3,6
F. 3/8" SS HEX BOLTS
G. 1 PIECE, SKID RESISTANT COVER
H. STANDARD NAMEPLATE (BLANK) INSTALLED
I. (2) 4 3/4" CONDUIT KNOCKOUTS (1 END)
J. (6) 4 3/4" CONDUIT KNOCKOUTS (1 END)
K. STAMP ASSEMBLY PART NUMBER AS SHOWN
L. ASSEMBLY WEIGHT: 345 LBS±5%
M. COMPLY WITH MANUFACTURE INSTALLATION GUIDELINES AND STANDARDS.
N. REFER TO CIVIL PLANS FOR REQUIRED FINISHING.
O. CONDUIT SHALL BE SLOPED TOWARDS HH FOR DRAINAGE.



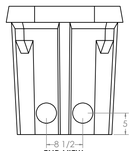
DETAIL A
SCALE 1 : 1

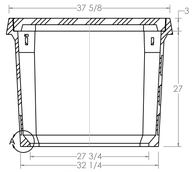


TOP VIEW

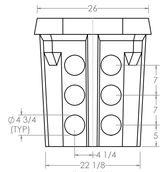


ISO VIEW


8 1/2
5
END VIEW



SECTION B-B



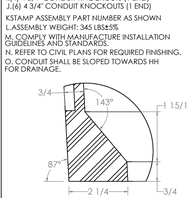
END VIEW

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	PCB243635SH20-006	PC BOX	1
2	PTB243635SH20-006		
3	PCC243635ATA722	PC COVER	1
4	0239	3/8" SS HEX BOLT	2
5	0177	3/8" FLAT WASHER	2
6	01375	3/8" NUT	2
7	NP0008	BLANK NAMEPLATE	1

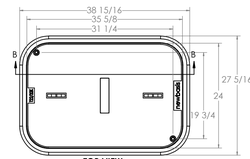
D | 1
TC506

HANDHOLES 11,20

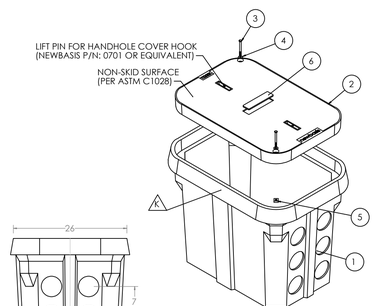
NOTES (UNLESS OTHERWISE SPECIFIED):
A. POLYMER CONCRETE ASSEMBLY
B. STRAIGHT SIDES
C. NO FLOOR
D. ANSI / SCTE 77 - T22
E. WUC 3,6
F. 3/8" SS HEX BOLTS
G. 1 PIECE, SKID RESISTANT COVER
H. STANDARD NAMEPLATE (BLANK) INSTALLED
I. (4) 4 3/4" CONDUIT KNOCKOUTS (1 END)
J. (4) 4 3/4" CONDUIT KNOCKOUTS (1 END)
K. STAMP ASSEMBLY PART NUMBER AS SHOWN
L. ASSEMBLY WEIGHT: 345 LBS±5%
M. COMPLY WITH MANUFACTURE INSTALLATION GUIDELINES AND STANDARDS.
N. REFER TO CIVIL PLANS FOR REQUIRED FINISHING.
O. CONDUIT SHALL BE SLOPED TOWARDS HH FOR DRAINAGE.



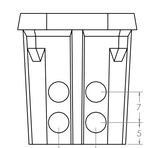
DETAIL A
SCALE 1 : 1

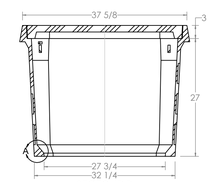


TOP VIEW

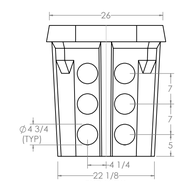


ISO VIEW


8 1/2
5
END VIEW



SECTION B-B



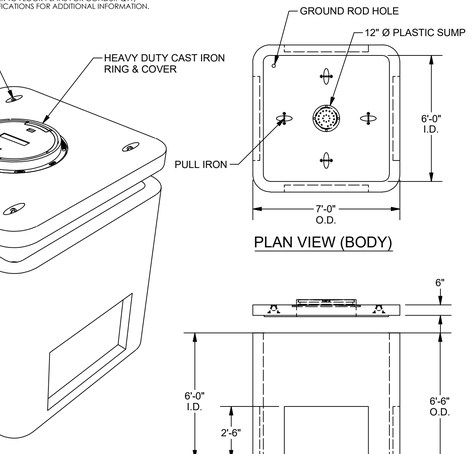
END VIEW

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	PCB243635SH20-007	PC BOX	1
2	PTB243635SH20-007		
3	PCC243635ATA722	PC COVER	1
4	0239	3/8" SS HEX BOLT	2
5	0177	3/8" FLAT WASHER	2
6	01375	3/8" NUT	2
7	NP0008	BLANK NAMEPLATE	1

D | 2
TC506

HANDHOLE 19

NOTES (UNLESS OTHERWISE SPECIFIED):
A. VAULT DESIGNED TO MEET ASTM AND ACI 318 WITH AASHTO HS-20 LOADING.
B. COMPLY WITH MANUFACTURE INSTALLATION GUIDELINES AND STANDARDS.
C. REFER TO CIVIL PLANS FOR REQUIRED FINISHING.
D. CONDUIT SHALL BE SLOPED TOWARDS HH FOR DRAINAGE.
E. REFER TO FLOOR PLANS FOR CONDUIT QTY/ SPECIFICATIONS FOR ADDITIONAL INFORMATION.



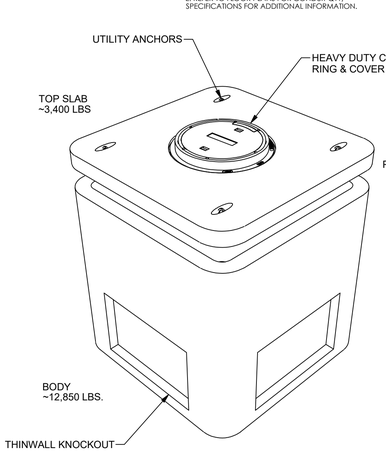
PLAN VIEW (BODY)

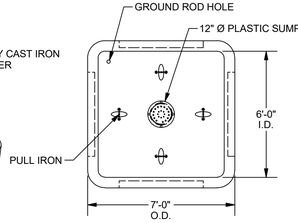
ELEV. VIEW

D | 3
TC506

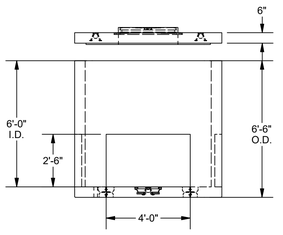
VAULT 01 DETAIL - 6x6x6

NOTES (UNLESS OTHERWISE SPECIFIED):
A. VAULT DESIGNED TO MEET ASTM AND ACI 318 WITH AASHTO HS-20 LOADING.
B. COMPLY WITH MANUFACTURE INSTALLATION GUIDELINES AND STANDARDS.
C. REFER TO CIVIL PLANS FOR REQUIRED FINISHING.
D. CONDUIT SHALL BE SLOPED TOWARDS HH FOR DRAINAGE.
E. REFER TO FLOOR PLANS FOR CONDUIT QTY/ SPECIFICATIONS FOR ADDITIONAL INFORMATION.





PLAN VIEW (BODY)



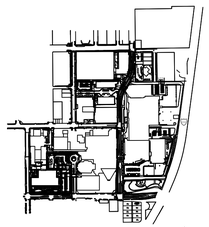
ELEV. VIEW

D | 4
TC506

VAULT 02 DETAIL - 6x6x6

Burns
BURNS ENGINEERING, INC. | 407 214-6412
201 SOUTH ORANGE AVENUE SUITE 940
ORLANDO, FL 32801

JPS HEALTH HOSPITAL | 817-702-3431
1500 s. Main Str.
Fort Worth, TX 76104



KEY PLAN

N

BURNS ENGINEERING F-4827
09/12/2025

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No.	Date	Revision

Project Title:

JOHN PETER SMITH (JPS) CAMPUS OPTICAL FIBER LOOP

Drawing Title:

TECHNOLOGY DETAILS - HANDHOLE'S / VAULT'S

Date:	09/12/2025
Scale:	1"=100'
Drawn:	GF
Checked:	MH/PG
Job No:	2024-0287

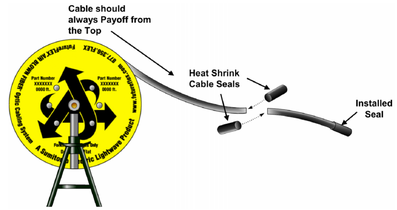
Drawing No:

TC506

GENERAL NOTES

A. NOT ALL INFORMATION IS APPLIED TO DETAIL FIGURES. REFER TO SUMITOMO RECOMMENDED PROCEDURE (SRP SP-F04-008) FOR ADDITIONAL INFORMATION.

D 1 TC507 TUBE CABLE REEL HANDLING



D 2 TC507 TUBE CABLE REEL SET-UP

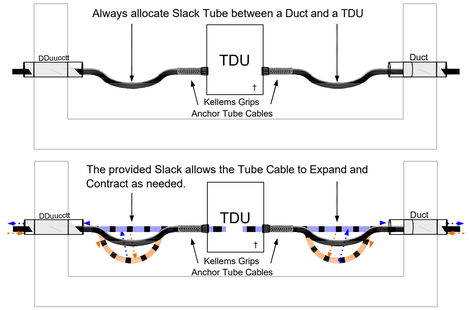
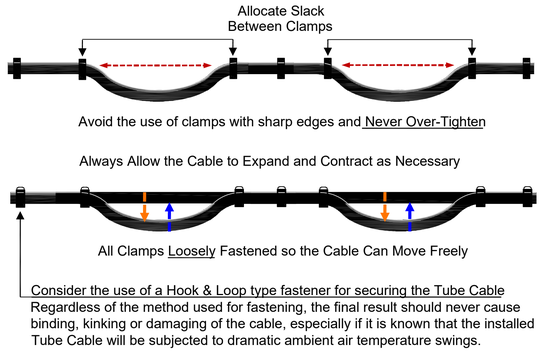


Figure 4 - Managing Tube Cable Movements in a Maintenance Hole

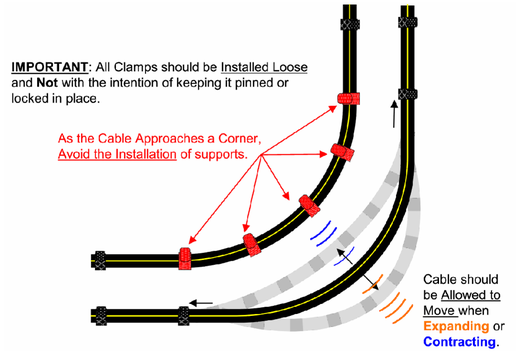
† TDU's must Not be Installed Below Grade where the Potential for Flooding may occur.

(If applicable, SEL Recommends the use of an Air Tight Splice Case) → DE09SPL 9.5" x 28" DE12SPL 12.5" x 36"

D 3 TC507 MANAGING TUBE CABLE MOVEMENTS IN HH



D 4 TC507 TUBE CABLE MOVEMENTS - SUPPORTED ROUTE



D 5 TC507 TUBE CABLE MOVEMENTS IN A BEND OR CORNER

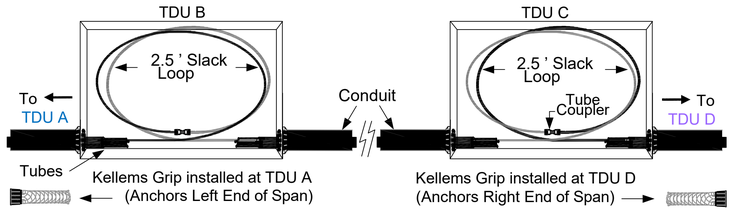
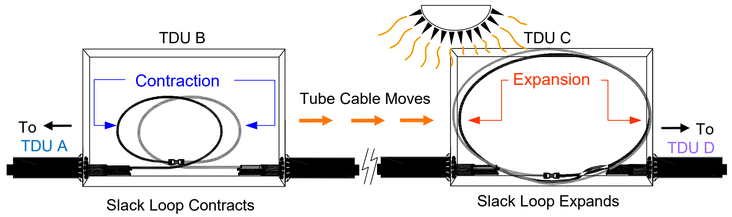
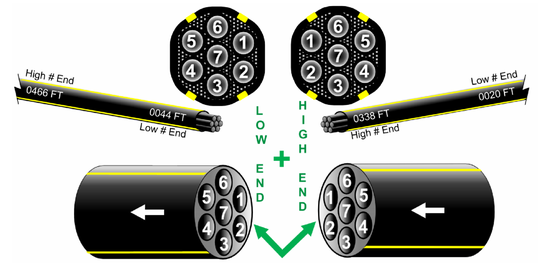


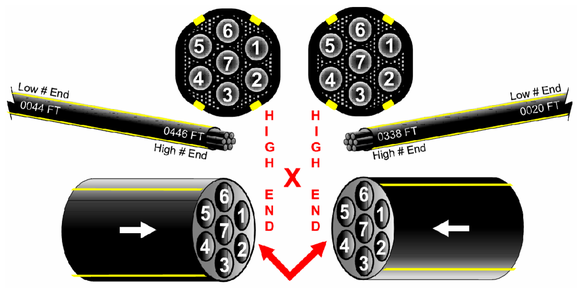
Figure 7A
Managing Tube Cable Slack in a Conduit Route



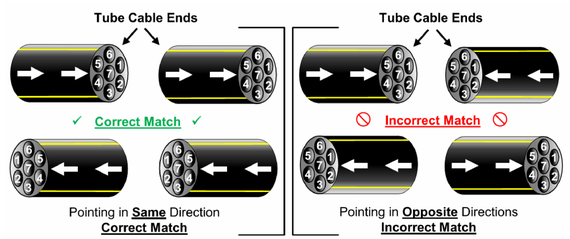
D 6 TC507 TUBE CABLE EXPANSION / CONTRACTION MOVEMENTS HANDLED WITHIN TDU'S



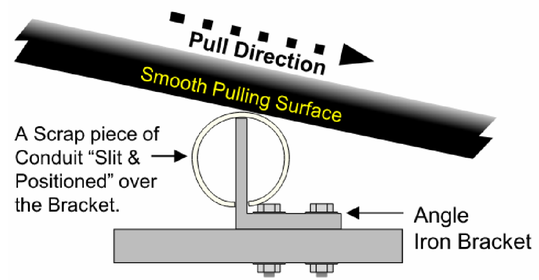
D 7 TC507 CORRECT TUBE ORIENTATION AT SPLICE POINT STRAIGHT-THROUGH TUBE CONNECTIONS



D 8 TC507 INCORRECT TUBE ORIENTATION AT SPLICE POINT TUBES WILL BE CROSSED OR TWISTED WHEN COUPLED



D 9 TC507 MATCHING PRINT STRING ARROWS AT TUBE CABLE SPLICE POINTS FOR CORRECT TUBE ORIENTATION



D 10 TC507 PROTECTING TUBE CABLE DURING INSTALLATION

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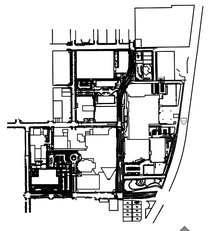
Fort Worth, TX 76104



KEY PLAN

BURNS ENGINEERING F-4827
09/12/2025

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No.	Date	Revision

Project Title:

JOHN PETER SMITH (JPS) CAMPUS OPTICAL FIBER LOOP

Drawing Title:

TECHNOLOGY DETAILS (FIGURES)

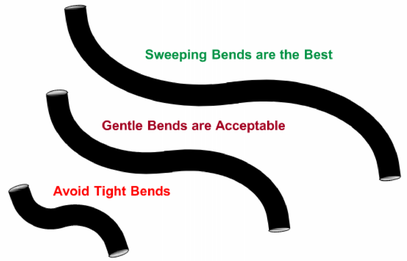
Date:	09/12/2025
Scale:	1"=100'
Drawn:	GF
Checked:	MH/PG
Job No:	2024-0287

Drawing No:

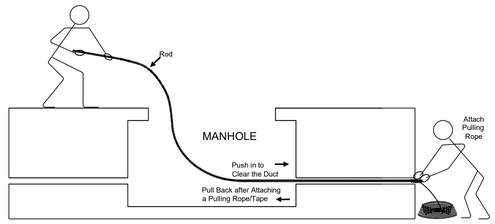
TC507

GENERAL NOTES

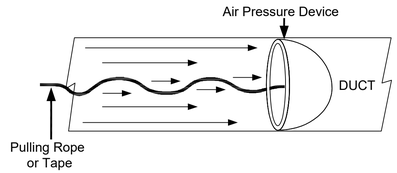
A. NOT ALL INFORMATION IS APPLIED TO DETAIL FIGURES. REFER TO SUMITOMO RECOMMENDED PROCEDURE (SRP SP-F04-008) FOR ADDITIONAL INFORMATION.



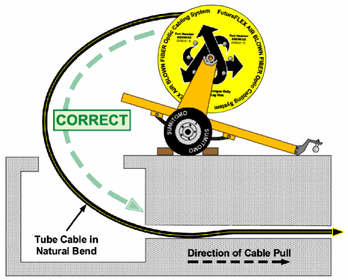
B 1 TC508 TIGHT CURVING

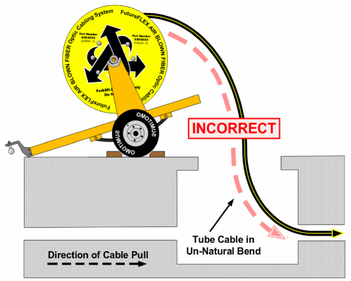


B 2 TC508 RODDING W/ STEEL OR PLASTIC ROD

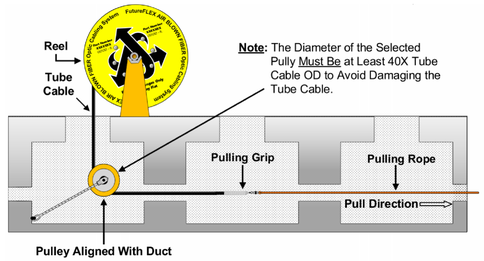


B 3 TC508 AIR-BLOWING METHOD OF INSTALLING PULLING ROPE OR TAPE

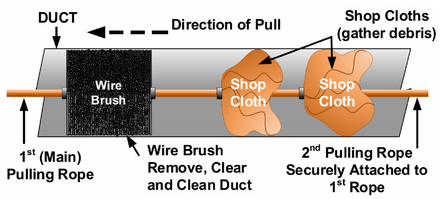




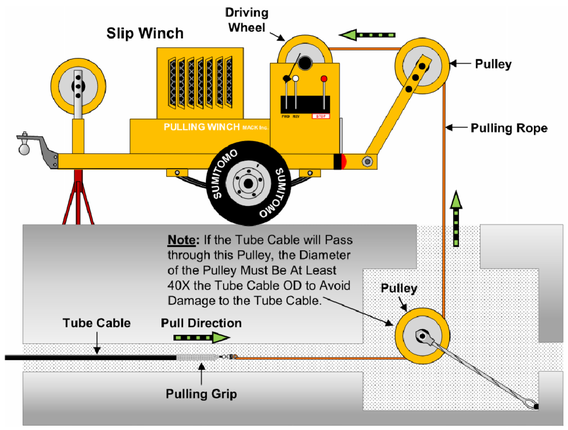
B 5 TC508 TUBE CABLE REEL PLACEMENT



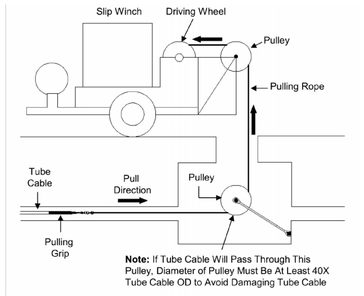
B 6 TC508 MANUAL PULLING METHOD



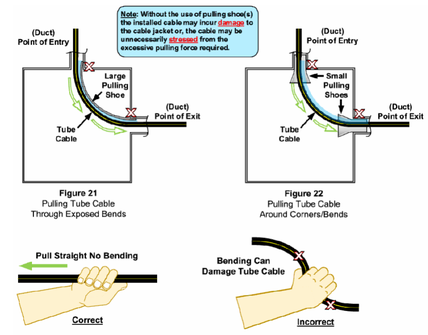
B 4 TC508 CLEANING DUCT INTERIOR WITH WIRE BRUSH AND RAGS



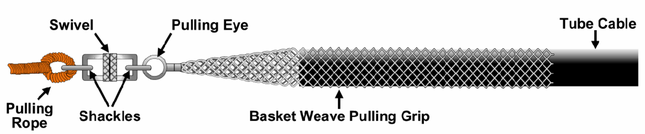
B 9 TC508 SLIP WINCH PULLING METHOD



B 7 TC508 SLIP WINCH PULLING METHOD



B 8 TC508 PULLING TUBE CABLE



B 10 TC508 STANDARD PULLING GRIP ATTACHMENT METHOD

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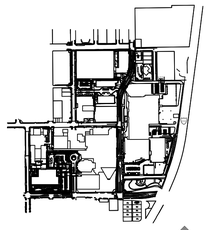

KEY PLAN

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STATE OF TEXAS
WILLIAM H. MASTERS
93374
REGISTERED PROFESSIONAL ENGINEER

BURNS ENGINEERING F-4827
09/12/2025

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JOHN PETER SMITH (JPS) CAMPUS OPTICAL FIBER LOOP

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TECHNOLOGY DETAILS (FIGURES)

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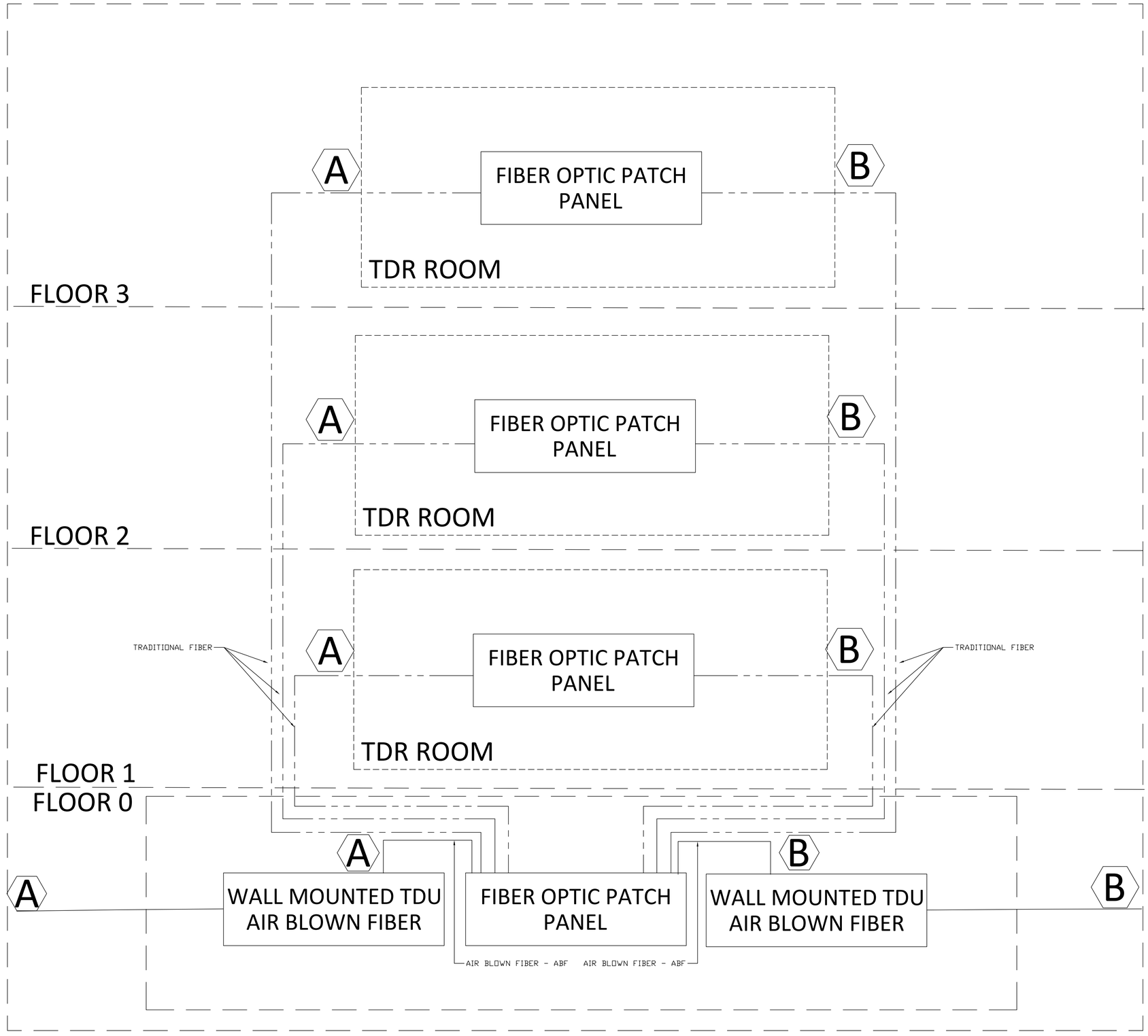
Drawn:	GF
Checked:	MH/PG
Job No:	2024-0287

Drawing No:

TC508



D | 1
TC601

(EXAMPLE) ABF SIDE-A AND SIDE-B DISTRIBUTION DIAGRAM

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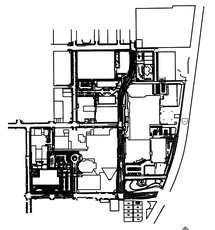

KEY PLAN

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No. Date Revision

Project Title:

JOHN PETER SMITH (JPS) CAMPUS OPTICAL FIBER LOOP

Drawing Title:

TECHNOLOGY SINGLE LINE DIAGRAMS

Date: 09/12/2025
Scale: 1"=100'
Drawn: GF
Checked: MH/PG
Job No: 2024-0287
Drawing No:

TC601

Bld Name	TSER/ TEC Name	TDR Name	Floor Level	A-Side Strands	To Vault/ HH Name	B-Side Strands	To Vault/ HH Name	Fiber Strands A-Side	Fiber Strands B-Side	Tube Cables to TSER A-Side	Tube Cables to TSER B-Side	Fiber Cable A-Side	Fiber Cable B-Side
PEC/ TSP (E)	RM 1-307		Level 1	48	HH17	48	HH19	192	192	7*	7*	(2) 72-strand; (1) 48-strand	(2) 72-strand; (1) 48-strand
	PEC	RM 1-208		24		24							
		RM 2-153	Level 2	24		24							
		RM 2-244		24		24							
	TSP	IDF #1	Level 1	24		24							
		IDF #2	Level 2	24		24							
		IDF #3	Level B	24		24							
TOTALS PEC/ TSP	1	6		192		192		192	192	7	7		
Hospital		IDF #1	LL	24	INSIDE FROM CUP	24	HH11	24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF #2		24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF #3		24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF #4		24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF #5	L1	24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF #6		24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF #7		24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF #8		24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF #9		24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF #10	L2	24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF #11		24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF #12		24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF #13		24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF #14		24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF #15	L3	24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF #16		24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
	TSER/ TEC			48		48		48	48	(19 + 12)*	(19 + 12)*	(1) 48-strand	(1) 48-strand
		IDF #17	L4	24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF #18		24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF #19	L5	24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF #20		24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF #21	L6	24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF #22		24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF #23	L7	24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF #24		24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF #25	L8	24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF #26		24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF #27	L9	24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF #28		24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF #29	L10	24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF #30		24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF #31	L11	24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF #32		24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
	Penthouse	IDF #33	L12	24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
TOTALS Hospital Add	1	33		840		840		840	840	66	66		
MOB/ ASC	TSER/ TEC		1	48	HH06	48	HH05	48	48	19*	19*	(1) 48-strand	(1) 48-strand
		IDF #1	1	24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF #2	2	24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF #3	3	24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF #4	3	24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF #5	4	24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF #6	4	24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF #7	5	24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF #8	5	24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF # 9	6	24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF # 10	6	24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF # 11	7	24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF # 12	7	24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF # 13	8	24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF # 14	8	24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF # 15	9	24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF # 16	9	24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF # 17	10	24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF # 18	10	24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
	Penthouse	IDF # 19	11	24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
TOTALS MOB/ ASC	1	19		504		504		504	504	38	38		
Pavilion (E)		RM P1.A		24	INSIDE FROM CUP VIA HOSPITAL	24	HH23	24	24	2	2	(1) 24-strand	(1) 24-strand
		RM P1.B	Level1	24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		RM P1.C		24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		RM P2.A		24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		RM P2.B	Level 2	24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		RM P2.C		24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		RM P3.A	Level 3	24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		RM P4.A	Level 4	24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		RM P5.A	Level 5	24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
TOTALS Pavilion	0	9		216		216		216	216	18	18		

* = FROM CUP TSER/TEC LEVEL 3

Bld Name	TSER/ TEC Name	TDR Name	Floor Level	A-Side Strands	To Vault/ HH Name	B-Side Strands	To Vault/ HH Name	Fiber Strands A-Side	Fiber Strands B-Side	Tube Cables to TSER A-Side	Tube Cables to TSER B-Side	Fiber Cable A-Side	Fiber Cable B-Side
Main Hosp (E)	Data Center		Lower Level	48	HH11	48	HH19	504	504	19*	19*	(7) 72-strand	(7) 72-strand
		RM 00-0565		24		24							
		RM A01	Level B	24		24							
		Mail Room		24		24							
		RM J		24		24							
		RM L		24		24							
		Radiology	Level 1	24		24							
		AHUS		24		24							
		Pharmacy		24		24							
		PD		24		24							
		Garage		24		24							
		OPC 2	Level 2	24		24							
		EMS 2		24		24							
		L &D		24		24							
		OBIX		24		24							
		RM B		24		24							
		New Entry	Level 3	24		24							
		OPC 4	Level 4	24		24							
		PBX		24		24							
		Old Tower	Level 6	24		24							
		Tower 6		24		24							
		Tower 7	Level 7	24		24							
		Tower 11	Level 11	24		24							
TOTALS Main Hosp	1	22		504		504		504	504	19*	19*		
MOB Garage (E)	RM 130A		Level 1	48	Via Skybridge to Garage MDF	48	HH (E) to AT&T	120	120	7*	7*	(1) 72-strand; (1) 48-strand	(1) 72-strand; (1) 48-strand
		RM 110		24		24							
		RM 510	Level 5	24		24							
		RM 520		24		24							
TOTALS MOB Garage	1	3		120		120		120	120	7	7		
BH CUP (E)		IDF #1		24	HH 15	24	HH 16	24	24	2*	2*	(1) 24-strand	(1) 24-strand
TOTALS	1	1		24		24		24	24	2	2		
JPOC 1350 (E)	MDF		Level 3	48	Sky Bridge	48	HH 08	144	192	7*	7*	(2) 72-strand	(2) 72-strand
		IDF #1	Level 1	24		24							
		IDF #2	Level 2	24		24							
		IDF #3	Level 3	24		24							
		IDF #4	Level 4	24		24							
TOTALS JPOC 1350	1	4		144		192		144	192	7	7		
JPOC 1400 (E)	MDF		Level 2	48	HH12	48	HH08	168	168	7*	7*	(2) 72-strand; (1) 24-strand	(2) 72-strand; (1) 24-strand
		IDF #1	Level 1	24		24							
		IDF #2	Level 2	24		24							
		IDF #3	Level 3	24		24							
		IDF #4	Level 4	24		24							
		IDF #5	Level 5	24		24							
TOTALS JPOC 1400	1	5		168		168		168	168	7	7		
Medical Examer (E)		N/A	N/A	0	N/A	0	N/A	0	0	0	0	N/A	N/A
TOTALS ME				0		0		N/A					
Main Garage (E)	MDF	IDF #1	Level 1	24	HH 19	24	HH20	24	24	2*	2*	(1) 24-strand	(1) 24-strand
TOTALS Garage	1	1		24		24		24	24	2	2		
Pavilion Garage (E)		N/A	N/A	0	N/A	0	N/A	0	0	0	0	N/A	N/A
Future Building	MDF			0	HH24	0	HH25	0	0	0	0	N/A	N/A
TOTALS Future	1	0		0		0		N/A					
Purchasing (E)	MDF	01-0592	Level 1	24	HH 14	24	HH15	24	24	2*	2*	(1) 24-strand	(1) 24-strand
TOTALS Purchasing	1	1		24		24		24	24	2	2		
CUP	TSER/TEC		Level 3	N/A	WITHIN CUP	N/A	WITHIN CUP	N/A	N/A	0	0	Internal to Room	Internal to Room
		IDF #1	Level 1	24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF #2		24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF #3	Level 2	24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF #4		24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF #5	Level 3	24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
		IDF #6		24		24		24	24	2	2	(1) 24-strand	(1) 24-strand
TOTALS CUP	1	6		96		96				12	12		

* = FROM CUP TSER/TEC LEVEL 3

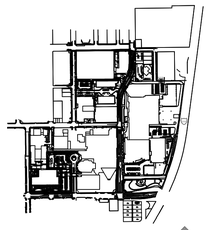
FIBER LOOP SCHEDULE

TC604

Burns

BURNS ENGINEERING, INC. | 407 214-6412
201 SOUTH ORANGE AVENUE SUITE 940
ORLANDO, FL 32801

JPS HEALTH HOSPITAL | 817-702-3431
1500 s. Main Str.
Fort Worth, TX 76104



KEY PLAN

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STATE OF TEXAS
WILLIAM H. MASTERS
93374
REGISTERED PROFESSIONAL ENGINEER

BURNS ENGINEERING F-4827
09/12/2025

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No.	Date	Revision

Project Title:

JOHN PETER SMITH (JPS) CAMPUS OPTICAL FIBER LOOP

Drawing Title:

TECHNOLOGY HAND HOLE / VAULT SCHEDULES

Date: 09/12/2025
Scale: 1"=100'
Drawn: GF
Checked: MH/PG
Job No: 2024-0287

Drawing No:

TC604