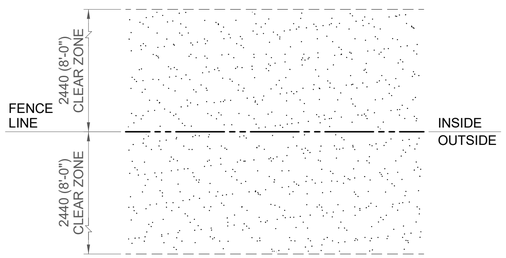
TITLE:	STANDARD DRAWINGS FENCE AND GATE	AIR PRODUCTS
DOCUMENT NO.	STD-ENG-CV027	© Air Products and Chemicals,Inc.

STANDARD DRAWINGS FENCE AND GATE
STD-ENG-CV027

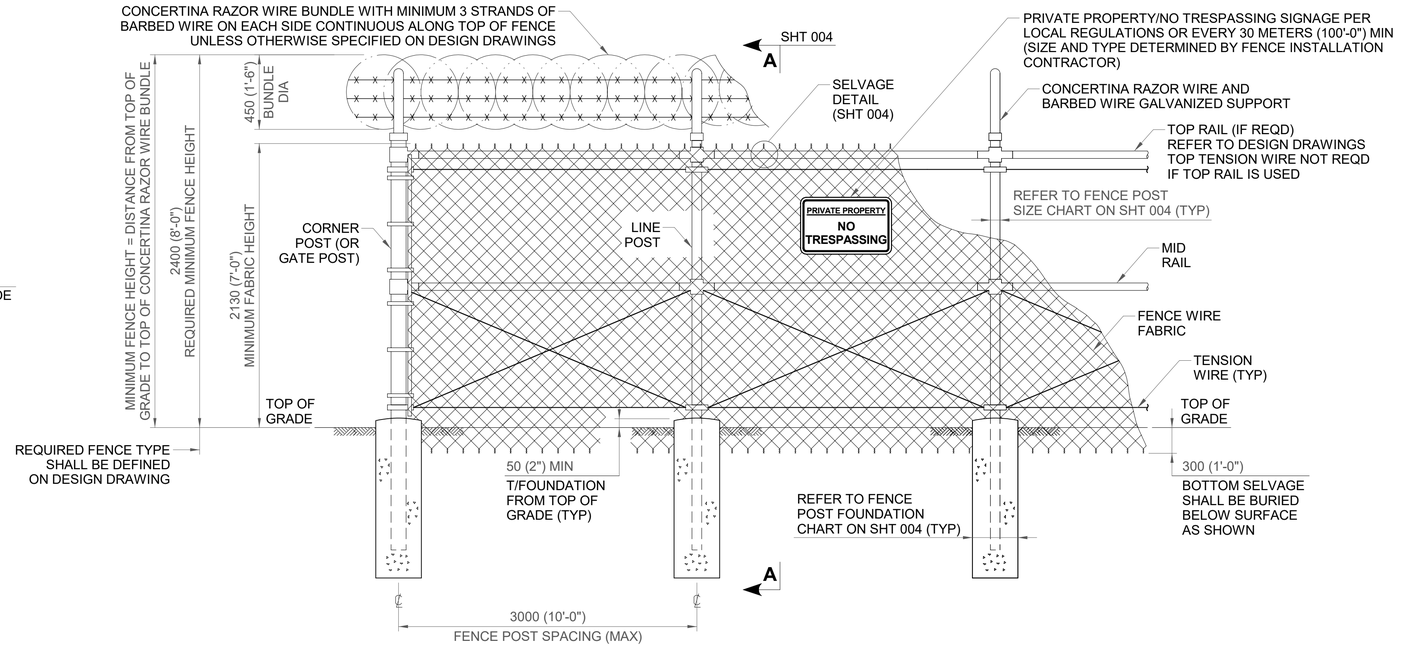
REVISION HISTORY			
Rev	Pages	Date	Description
00	5	23-Sep-24	ORIGINAL ISSUE

TITLE:	STANDARD DRAWINGS FENCE AND GATE		AIR PRODUCTS
DOCUMENT NO.	**STD-ENG-CV027**		**STD-ENG-CV027** **Revision 00** **September 2024** **Page 2 of 7**
SR. No	DRAWING TITLE	DOCUMENT NUMBER	SHEET NUMBER
1	STANDARD DRAWING FENCE AND GATE - PLANS AND ELEVATIONS	STD-ENG-CV027	001
2	STANDARD DRAWING FENCE AND GATE - ELEVATIONS	STD-ENG-CV027	002
3	STANDARD DRAWING FENCE AND GATE - NOTES	STD-ENG-CV027	003
4	STANDARD DRAWING FENCE AND GATE - DETAILS	STD-ENG-CV027	004
5	STANDARD DRAWING FENCE AND GATE - SWING GATES	STD-ENG-CV027	005



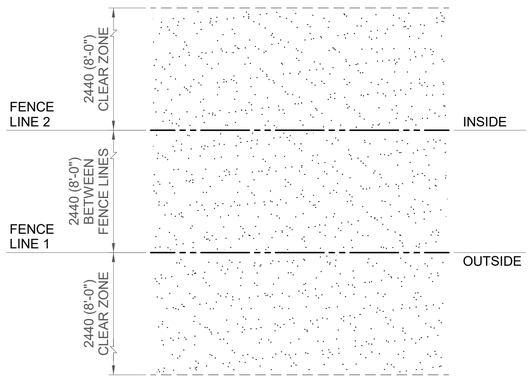
BASIC SECURITY FENCE PLAN - TYPE A

SINGLE FENCE LINE WITH A CLEAR ZONE ON INSIDE AND OUTSIDE DEFINE ON DESIGN DESIGN DRAWING



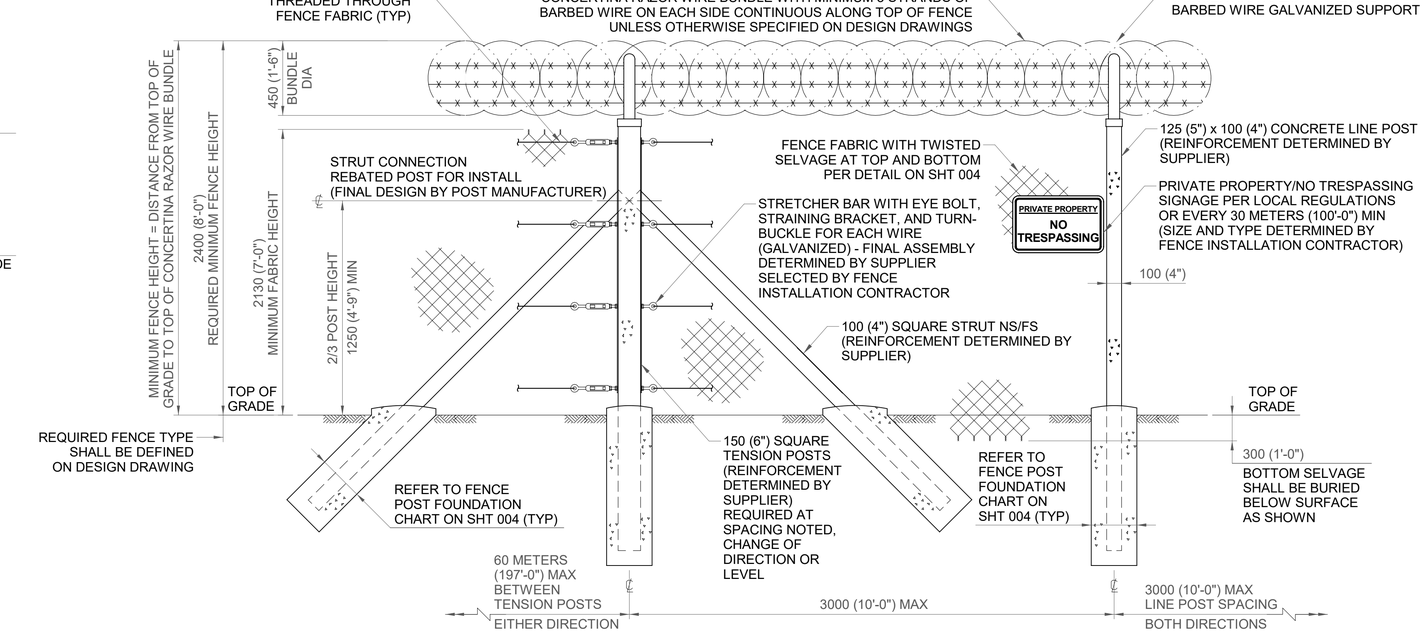
ELEVATION - SECURITY FENCE (STEEL POST)

TYPICAL FENCE ASSEMBLY WITH STEEL POSTS AND COMPONENTS



MAXIMUM SECURITY FENCE PLAN - TYPE B

DOUBLE FENCE LINE WITH A CLEAR ZONE ON THE INSIDE, OUTSIDE, AND IN BETWEEN AS DEFINE ON DESIGN DRAWING



ELEVATION - SECURITY FENCE (CONCRETE POST)

TYPICAL FENCE ASSEMBLY WITH CONCRETE POSTS AND STEEL COMPONENTS

NOTES:

1. ALL DIMENSIONS ARE GIVEN IN MM AND (FEET/INCHES).
2. FOR SAFETY AND DEMARCATION FENCES, REFER TO SHEET 002.
3. FOR GENERAL NOTES, DESIGN AND LAYOUT NOTES, AND FENCE INSTALLATION NOTES, REFER TO SHEET 003.
4. FOR ADDITIONAL DETAILS, REFER TO SHEET 004.
5. FOR SWING ACCESS GATES, REFER TO SHT 005.

DEFINITIONS:

GATE POST - THE TERMINATING POST ON EITHER SIDE OF A GATE OPENING.

CORNER POST - THE TERMINATING POST AT A TURN OR DIRECTION CHANGE OF A FENCE LINE.

LINE POST - POSTS ALONG A FENCE LINE SPACED BETWEEN CORNER OR GATE POSTS.

PULL POST - POST UTILIZED TO APPLY TENSION TO FENCE TENSION WIRE.

BRACING POST - POST INSTALLED DIAGONALLY TO REINFORCE A GATE, CORNER , OR LINE POST.

TOP RAIL - HORIZONTAL RAIL AT TOP OF FENCE ASSEMBLY SPANNING BETWEEN POSTS.

MID RAIL - HORIZONTAL RAIL AT APPROXIMATE MIDDLE OF FENCE ASSEMBLY HEIGHT SPANNING BETWEEN POSTS.

STRETCHER BAR - BAR FOR ANCHORING FABRIC TO GATE POSTS AND CORNER POSTS.

TENSION ROD - ROD INSTALLED DIAGONALLY BETWEEN FENCE POSTS TO PREVENT SAGGING.

NOTE:

FOR PROJECTS/LOCATIONS WHEREIN THE HOST NATIONS FENCING STANDARDS EXCEED AIR PRODUCTS' DESIGN, OR ARE MORE STRINGENT THAN THE REQUIREMENTS DEFINED ON THIS DRAWING, LOCAL CODE SHALL BE FOLLOWED IN LIEU OF THE CONTENTS OF THIS STANDARD DRAWING. EXAMPLES INCLUDE: HCIS /CICPA FACILITIES IN THE MIDDLE EAST, FACILITIES IN UZBEKISTAN, REQUIREMENTS DRIVEN BY FACILITY K-RATING, ETC.

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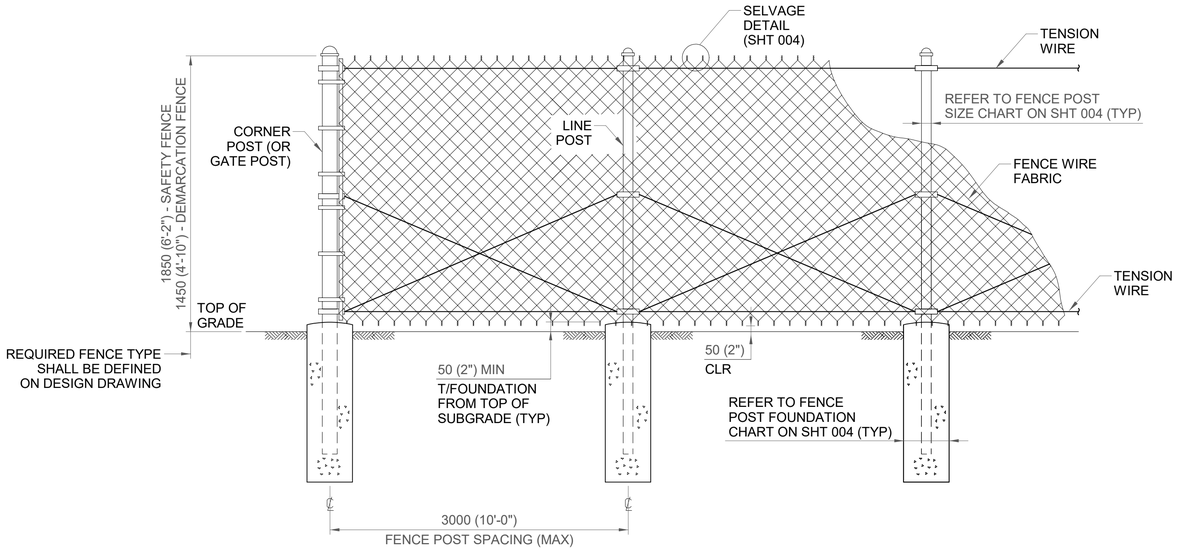
TITLE: STANDARD DRAWING FENCE AND GATE

PLANS AND ELEVATIONS

METRIC (IMPERIAL)

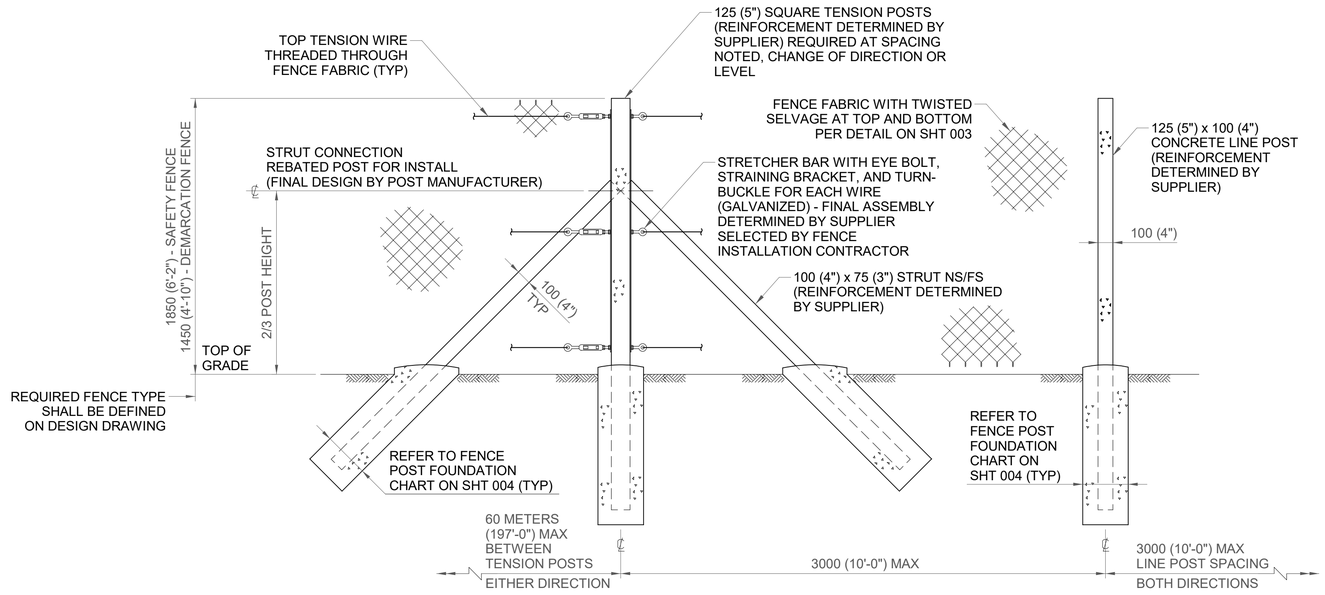
USED ON: GLOBAL
OWNER GROUP: CIVIL/STRUCTURAL
RELEASE PURPOSE: ISSUED FOR DESIGN
REFERENCE:
DOC No: STD-ENG-CV027
SCALE: NONE
SHEET: 001

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ELEVATION - SAFETY/DEMARCATION FENCE (STEEL POST)

TYPICAL FENCE ASSEMBLY WITH STEEL POSTS AND COMPONENTS



ELEVATION - SAFETY/DEMARCATION FENCE (CONCRETE POST)

TYPICAL FENCE ASSEMBLY WITH CONCRETE POSTS AND STEEL COMPONENTS

NOTES:

NOTE:
FOR PROJECTS/LOCATIONS WHEREIN THE HOST NATIONS FENCING STANDARDS EXCEED AIR PRODUCTS' DESIGN, OR ARE MORE STRINGENT THAN THE REQUIREMENTS DEFINED ON THIS DRAWING, LOCAL CODE SHALL BE FOLLOWED IN LIEU OF THE CONTENTS OF THIS STANDARD DRAWING. EXAMPLES INCLUDE: HCIS /CICPA FACILITIES IN THE MIDDLE EAST, FACILITIES IN UZBEKISTAN, REQUIREMENTS DRIVEN BY FACILITY K-RATING, ETC.

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00		ISSUED FOR DESIGN	24JUL24	CJR	DPK	DPK

AIR PRODUCTS

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TITLE
STANDARD DRAWING
FENCE AND GATE
ELEVATIONS
METRIC (IMPERIAL)

USED ON	GLOBAL
OWNER GROUP	CIVIL/STRUCTURAL
RELEASE PURPOSE	ISSUED FOR DESIGN
REFERENCE	
DOC No	STD-ENG-CV027
SCALE	NONE
SHEET	002

GENERAL NOTES:

1. THE CONTENT OF THIS STANDARD DETAIL DRAWING SHALL BE COMPARED TO LOCAL CODE REQUIREMENTS ON A PROJECT SPECIFIC BASIS. SPECIAL DETAILS OR DEVIATIONS FROM THIS STANDARD DRAWING THAT MAY BE REQUIRED TO ENSURE LOCAL CODE REQUIREMENTS ARE MET SHALL BE DETAILED AND/OR OUTLINED ON PROJECT-SPECIFIC DESIGN DRAWINGS.

2. ALL FENCE COMPONENTS **EXCEPT TENSION WIRE** (INCLUDING BUT NOT LIMITED TO BOLTS, NUTS, CAPS, CLAMPS, RODS, POSTS, RAILS, GATES, ETC.) SHALL BE CARBON STEEL.

3. TENSION WIRE SHALL BE COILED SPRING, ALUMINUM COATED, AND MINIMUM 5mm (0.177") IN DIAMETER*.
(*BASED ON READILY AVAILABLE MATERIALS IN THE UNITED STATES - TENSION WIRE SPECIFICATIONS OR REQUIREMENTS MAY VARY IN DIFFERENT REGIONS).

4. ALL CARBON STEEL FENCE COMPONENTS SHALL BE HOT-DIPPED GALVANIZED.

5. FABRIC FOR STANDARD SECURITY FENCE SHALL BE CHAIN LINK TYPE, MINIMUM 4mm (0.148") IN DIAMETER WITH MAXIMUM 50mm (2") DIAMOND MESH. FENCE FABRIC SHALL BE GALVANIZED*.
(*BASED ON READILY AVAILABLE MATERIALS IN THE UNITED STATES - FABRIC SPECIFICATIONS OR REQUIREMENTS MAY VARY IN DIFFERENT REGIONS).

6. VISION BARRIER FABRIC SHALL BE MINIMUM 90mm (3½") x 140mm (5½") MESH WOVEN CONTINUOUS WITHOUT SPLICES*.
(*BASED ON READILY AVAILABLE MATERIALS IN THE UNITED STATES - VISION BARRIER FABRIC SPECIFICATIONS OR REQUIREMENTS MAY VARY IN DIFFERENT REGIONS).

7. FENCE FABRIC WIRE SHALL HAVE A MINIMUM TENSILE STRENGTH OF 551580.8 kN/m² (80000 lbs/in²)*.
(*BASED ON READILY AVAILABLE MATERIALS IN THE UNITED STATES - TENSILE STRENGTH REQUIREMENTS FOR FABRIC MAY VARY IN DIFFERENT REGIONS).

8. ALL SECURITY FENCE ASSEMBLIES SHALL INCLUDE, AT MINIMUM, A TENSION WIRE AT THE TOP AND BOTTOM, SPANNING BETWEEN POSTS. SPECIAL REQUIREMENTS WILL BE DEFINED ON AIR PRODUCTS FENCE LAYOUT DESIGN DRAWING.

9. BRACING POSTS ARE REQUIRED AT EVERY ACCESS GATE, PULL POST, AND CORNER POST. BRACING FOR LINE POSTS SHALL BE INSTALLED AT THE LOCATIONS DEFINED ON THE AIR PRODUCTS FENCE LAYOUT DESIGN DRAWING.

10. ALL MATERIALS AND HARDWARE USED FOR FENCE ASSEEMBLY SHALL BE OF NEW (PREVIOUSLY UNUSED) QUALITY.

11. ALL MATERIALS SHALL BE SOURCED FROM A REPUTABLE SUPPLIER.

12. PALISADE TYPE FENCING IS NOT PERMITTED.

13. ALL OPEN-ENDED FENCE POSTS SHALL BE SEALED CLOSED WITH A CAP.

14. GATES, INTERMEDIATE BRACING POSTS, LINE POSTS AND VISION BARRIERS SHALL BE INSTALLED AT THE LOCATIONS SPECIFIED ON AIR PRODUCTS FENCE LAYOUT DESIGN DRAWING.

15. EXTENT OF FENCE SHALL BE FURNISHED WITH CONCERTINA RAZOR WIRE SUPPORTED FROM FENCE POSTS USING GALVANIZED SUPPORT ARMS.

16. CONCERTINA RAZOR SHALL CONSIST OF*:
    a. GALVANIZED HIGH TENSILE STRENGTH CORE WIRE.
    b. GALVANIZED STEEL TAPE PUNCHED WITH BARBS.
(*BASED ON READILY AVAILABLE MATERIALS IN THE UNITED STATES - CONCERTINA RAZOR WIRE SPECIFICATIONS MAY VARY IN DIFFERENT REGIONS).

17. TOP AND BOTTOM FENCE SELVAGE SHALL BE MACHINE TWISTED WITH WIRES CUT ON A BIAS TO FORM A BARBED FINISH.

18. BOTTOM SELVAGE FOR SECURITY FENCE SHALL BE BURIED BELOW GRADE AS SHOWN IN ELEVATIONS SHOWN ON SHT 001.

19. WHEN BOTTOM SELVAGE CANNOT BE BURIED BELOW SUBGRADE, FENCE FABRIC SHALL BE ANCHORED AT GROUND LEVEL.

20. GATE ASSEMBLIES OF WELDED CONSTRUCTION ARE PREFERRED. GATES SHALL CONSIST OF ADEQUATE BRACING, AND SHALL BE FITTED WITH ADJUSTABLE DIAGONAL TENSION BARS TO PREVENT SAGGING. FINAL GATE DESIGN SHALL BE DETERMINED BY MANUFACTURER.

21. GATE FRAMES SHALL CONSIST OF MINIMUM DN40 (1 1/2") PIPE OR SQUARE MATERIAL.

22. ALL GATE ASSEMBLIES SHALL BE FURNISHED WITH CONCERTINA RAZOR WIRE.

23. CONCERTINA RAZOR WIRE ATTACHED TO GATE ASSEMBLIES SHALL BE ORIENTED IN THE PLANE OF THE GATE AND SHALL BE SUPPORTED USING VERTICAL GALVANIZED SUPPORT ARMS.

24. GATE HINGES FOR SWING GATES SHALL BE OF HEAVY-DUTY CONSTRUCTION, SHALL BE GALVANIZED, AND SHALL ALLOW FOR THE GATE TO SWING 180º.

GENERAL NOTES (CONTD):

26. GATE ASSMEBLIES SHALL BE INSTALLED SUCH THAT THE SWING ACTION IS NEITHER IMPEDED BY NOR DISTURBS FINISHED GRADE, WHEN APPLICABLE.

27. ALL GATE ASSEMBLIES SHALL BE FITTED WITH A PLUNGER BAR LATCH AND PADLOCKING ATTACHMENTS. PADLOCKS SHALL BE ACCESSIBLE FROM BOTH SIDES OF THE GATE.

28. DOUBLE-SWING GATES SHALL BE FITTED WITH A DROP PIN LOCKING MECHANISM AND SHALL BE SECURED WITH A SECURITY-RATED LOCK AND CHAIN ASSEMBLY.

29. FOUNDATIONS SHALL BE DESIGNED TO SITE-SPECIFIC DESIGN CRITERIA TO AVOID SETTLEMENT, MIGRATION, AND BUOYANCY.

FENCE INSTALLATION CONTRACTOR NOTES:

1. THE FENCE INSTALLATION CONTRACTOR SCOPE SHALL INCLUDE THE FOLLOWING:
    a. QUANTIFY AND FURNISH ALL MATERIALS REQUIRED FOR COMPLETE FENCE ASSEMBLY INSTALLATION, INCLUDING:
        ALL REQUIRED HARDWARE (BOLTS, NUTS, CLAMPS, RAILS, POSTS, ETC.)
        CONCRETE AND REQUIRED FORMWORK
        FENCE FABRIC
        VISION BARRIER (IF REQUIRED)
        FENCE FABRIC ANCHORS (IF REQUIRED)
        RAZOR WIRE (CONCERTINA AND BARBED STRANDS)
        RAZOR WIRE SUPPORTS
    b. QUANTIFY AND FURNISH ANY ADDITIONAL MATERIALS REQUIRED TO FACILITATE FENCE INSTALLATION NOT INCLUDED IN THIS STANDARD DETAIL DRAWING.
    c. PROVIDE ALL REQUIRED LABOR, TOOLS, AND EQUIPMENT.
    d. INSTALL FENCE IN ACCORDANCE WITH AIR PRODUCTS FENCE LAYOUT DESIGN DRAWING.

2. CONCRETE SHALL BE 1:2:4 VOLUMETRIC OR EQUIVALENT BATCH WEIGHED MIX WITH NOT MORE THAN 100mm (4") SLUMP.

3. CONCRETE FOOTINGS FOR ALL POSTS SHALL BE ALLOWED TO SET FOR 4 TO 7 DAYS BEFORE FABRIC IS MOUNTED AND PLACED IN TENSION.

4. THE FENCE INSTALLATION CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF ANY ADDITIONAL FOUNDATIONS REQUIRED FOR THE FENCE SYSTEM.

5. ANTI-INTRUDER MECHANICAL FASTENERS SHALL BE USED FOR ALL BRACKETS, CLIPS, AND CLAMPS TO ENSURE FENCE COMPONENTS AND FABRIC CANNOT BE REMOVED.

6. iF ANTI-INTRUDER MECHANICAL FASTENERS ARE NOT AVAILABLE, TRADITIONAL MECHANICAL FASTENERS MAY BE USED AND SHALL BE PEENED OR WELDED OVER.

7. GATE, CORNER, LINE AND BRACING POSTS SHALL BE OF SINGULAR, UNIFORM PIPE CONSTRUCTION. SPLICES OR COUPLINGS ARE NOT PERMITTED.

8. HORIZONTAL TENSION WIRES SPANNING BETWEEN POSTS SHALL BE INSTALLED AND PULLED TAUT PRIOR TO INSTALLATION OF FENCE FABRIC.

9. DIAGONAL TENSION WIRES SHALL BE INSTALLED, WHERE REQUIRED, TO PREVENT SAGGING. THE FENCE INSTALLATION CONTRACTOR SHALL DETERMINE THE LOCATIONS OF WHERE DIAGONAL TENSION WIRES ARE NECESSARY.

10. FENCE FABRIC SHALL BE PULLED TAUT AND SECURED TO THE TOP TENSION WIRE OR TOP RAIL, BOTTOM TENSION WIRE, AND MID RAIL (IF APPLICABLE) ON BOTH SIDES OF EACH POST AND AT A MAXIMUM OF 610mm (2'-0") ON CENTER WITH WIRE TIES.

11. FENCE FABRIC SHALL BE SECURED TO INTERMEDIATE LINE POSTS AT A MAXIMUM OF 355mm (1'-2") ON CENTER WITH WIRE TIES.

12. FENCE FABRIC SHALL BE SECURED TO CORNER AND GATE POSTS WITH STRETCHER BARS AND BANDS. BANDS SHALL BE EQUALLY SPACED ON THE STRETCHER BAR WITH A MAXIMUM SPACING OF 305mm (1'-0") ON CENTER.

13. BOTTOM OF FENCE FABRIC SHALL BE BURIED BELOW GRADE A MINIMUM OF 300mm (1'-0")

14. WHEN BOTTOM OF FENCE FABRIC CANNOT BE BURIED, THE FENCE INSTALLATION CONTRACTOR SHALL ADEQUATELY SECURE FABRIC TO GRADE WITH ANCHORS. QUANTITY, SPACING AND TYPE OF ANCHORS USED SHALL BE DETERMINED BY THE FENCE INSTALLATION CONTRACTOR.

15. GATE FABRIC SHALL BE SECURED TO THE GATE FRAME BY USE OF HOOK BOLTS, STRETCHER BARS, AND STRETCHER BAR BANDS OR AS DIRECTED BY THE GATE MANUFACTURER.

16. WELDING OF FENCE OR GATE FABRIC IS NOT PERMITTED.

17. CONCERTINA RAZOR WIRE AND BARBED WIRE STRANDS SHALL BE SUPPORTED BY GALVANIZED SUPPORT ARMS MOUNTED TO FENCE POSTS. THE FENCE INSTALLATION CONTRACTOR SHALL DETERMINE THE QUANTITY, SPACING, AND TYPE OF SUPPORT ARMS NECESSARY TO ADEQUATELY SUPPORT RAZOR WIRE.

18. TERMINATING RAZOR WIRE SUPPORTS AT GATE POSTS SHALL BE INSTALLED SUCH THAT THE SUPPORT ATTACHED TO THE GATE POST DOES NOT INHIBIT THE REQUIRED 180° GATE SWING.

19. CONCERTINA RAZOR WIRE ATTACHED TO GATES SHALL BE INSTALLED SUCH THAT THE BUNDLE IS ORIENTED PARALLEL TO THE PLANE OF THE GATE, AND SHALL BE SUPPORTED USING VERTICAL GALVANIZED SUPPORT ARMS TO ALLOW THE GATE TO SWING 180°.

20. THE FENCE INSTALLATION CONTRACTOR SHALL PROVIDE SUITABLE MEANS FOR TENSION ADJUSTMENT OF RAZOR WIRE.

FENCE INSTALLATIONCONTRACTOR NOTES (CONTD):

21. ALL GATES, HARDWARE, AND OTHER RELATED COMPONENTS SHALL BE INSTALLED PER THE MANUFACTURERS INSTRUCTIONS.

22. ALL GATES SHALL BE FITTED WITH PROTECTIVE HINGE CAPS, ALTERED IN DIRECTION, TO PREVENT GATE REMOVAL.

23. DOUBLE-SWING GATES SHALL INCLUDE A SECURITY-RATED PADLOCK AND CHAIN ASSEMBLY IN ADDITION TO THE DROP PIN ASSEMBLY SHOWN ON SHT 005. THE PADLOCK SHALL BE FITTED WITH A SHROUD TO PREVENT MANIPULATION OR BLUNT FORCE DAMAGE.

24. SPECIALTY GATES NOT COVERED IN THIS STANDARD DETAIL DRAWING (i.e. - SLIDING GATES, TURNSTYLES, ETC.) WHICH MAY BE REQUIRED SHALL BE FURNISHED BY THE FENCE INSTALLATION CONTRACTOR PER THE DIMENSIONS AND SPECIFICATIONS DEFINED ON THE PROJECT-SPECIFIC DESIGN DRAWING.

25. SPECIALTY GATES, WHEN APPLICABLE, SHALL BE INSTALLED PER THE MANUFACTURERS INSTRUCTIONS.

26. MATERIALS, WORKMANSHIP, AND INSTALLATION SHALL BE GUARANTEED AGAINST IMPROPER DESIGN AND/OR FAILURE FROM NORMAL USAGE BY THE FENCE INSTALLATION CONTRACTOR FOR A PERIOD OF ONE YEAR FROM THE DATE OF INSTALLATION. ANY MATERIALS THAT FAIL OR SHOW DEFECTS DURING THE PERIOD OF GUARANTEE SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR UPON DEMAND AND WITHOUT EXPENSE TO AIR PRODUCTS.

DESIGN AND LAYOUT NOTES:

1. THE FOLLOWING NOTES ARE A GUIDE FOR CREATING A DESIGN LAYOUT FOR A PERMANENT SECURITY FENCE AROUND THE PERIMETER, OR A SPECIFIC DESIGNATED AREA OF A PLANT OR SITE.

2. TO ENSURE COMPLETE DESIGN REQUIREMENTS ARE MET FOR A PERMANENT SECURITY FENCE, USE THIS STANDARD DETAIL DRAWING WITH AIR PRODUCTS ENGINEERING STANDARD STD-ENG-CV021 - **FENCE AND GATE**.

3. AIR PRODUCTS FENCE LAYOUT DESIGN DRAWINGS SHALL CONTAIN THE FOLLOWING INFORMATION, MINIMUM:
    a. PLAN INDICATING EXTENT OF FENCE PERIMETER.
    b. SECURITY LEVEL REQUIRED (BASIC OR MAXIMUM).
    c. FENCE ASSEMBLY TYPE (STEEL OR CONCRETE).
    d. REQUIRED FENCE HEIGHT (SECURITY, PROJECT SPECIFIC, SAFETY, DEMARCATION).
    e. FENCE POST SPACING.
    f. BRACING POST LOCATIONS.
    g. GATE TYPES, LOCATIONS, WIDTHS, AND SWING DIRECTION
    h. LOCATIONS AND EXTENT OF VISION BARRIER, WHERE REQUIRED.
    i. REFERENCE TO THIS STANDARD DETAIL DRAWING.
    j. SPECIAL OR PROJECT SPECIFIC REQUIREMENTS NOT COVERED IN THIS STANDARD DETAIL DRAWING.
    k. SPECIAL DETAILS NOT COVERED IN THIS STANDARD DETAIL DRAWING.

4. MATERIAL SUBSTITUTIONS FOR FENCE POSTS AND RAILS SHALL BE PROVIDED ON PROJECT-SPECIFIC DESIGN DRAWINGS.

5. DESIGN DRAWINGS SHALL INDICATE WHEN A TOP RAIL OR MID RAIL IS REQUIRED FOR A STANDARD FENCE, IF APPLICABLE.

6. FENCE POST SPACING SHALL NOT EXCEED 3000mm (10'-0") FOR STEEL POSTS AND 3000mm (10'-0") FOR CONCRETE POSTS.

7. BRACING POSTS FOR LINE POSTS SHALL BE LOCATED NO MORE THAN EVERY 152.4 METERS (500'-0").

8. A MINIMUM OF 1 BRACED LINE POST SHALL BE PROVIDED FOR A STRAIGHT, UNINTERRUPTED FENCE LINE OF 152.4 METERS (500'-0").

9. ALL END POSTS SHALL BE REINFORCED WITH A MINIMUM OF 1 BRACING POST. ADDITIONAL BRACING POSTS, IF REQUIRED, SHALL BE DEFINED ON DESIGN DRAWINGS.

10. ALL CORNER POSTS SHALL BE REINFORCED WITH 2 BRACING POSTS ORIENTED 90° APART.

11. SWING GATE POSTS SHALL BE REINFORCED WITH A MINIMUM OF 1 BRACING POST. ADDITIONAL BRACING POSTS, IF REQUIRED, SHALL BE DEFINED ON DESIGN DRAWINGS.

12. SLIDING GATE POSTS AND PULL POSTS SHALL BE REINFORCED WITH A MINIMUM OF 1 BRACING POST IN THE PLANE OF THE FENCE LINE, AND SHALL BE DEFINED ON THE DESIGN DRAWINGS.

13. SLIDING GATES SHALL BE LOCATED A SUFFICIENT DISTANCE FROM CORNER POSTS, BRACING POSTS, OR ANY OTHER OBSTRUCTION THAT MAY INHIBIT THE GATE FROM SLIDING THE FULLEST EXTENT REQUIRED.

14. SPECIALTY GATES NOT COVERED IN THIS STANDARD DETAIL DRAWING, INLCUDING BUT NOT LIMITED TO TURNSTYLES, GATE ARMS, SLIDING GATES, LIFT GATES, ETC., WHERE REQUIRED, SHALL BE SPECIFIED ON DESIGN DRAWINGS WITH DIMENSIONAL REQUIREMENTS. DESIGN OF THESE GATE TYPES IS THE RESPONSIBILITY OF THE MANUFACTURER.

15. CRASH BARRIERS, WHERE REQUIRED, SHALL BE SPECIFIED ON DESIGN DRAWINGS WITH DIMENSIONAL REQUIREMENTS. DESIGN OF CRASH BARRIERS IS THE RESPNSIBILITY OF THE MANUFACTURER.

NOTES:

NOTE:
FOR PROJECTS/LOCATIONS WHEREIN THE HOST NATIONS FENCING STANDARDS EXCEED AIR PRODUCTS' DESIGN, OR ARE MORE STRINGENT THAN THE REQUIREMENTS DEFINED ON THIS DRAWING, LOCAL CODE SHALL BE FOLLOWED IN LIEU OF THE CONTENTS OF THIS STANDARD DRAWING. EXAMPLES INCLUDE: HCIS /CICPA FACILITIES IN THE MIDDLE EAST, FACILITIES IN UZBEKISTAN, REQUIREMENTS DRIVEN BY FACILITY K-RATING, ETC.

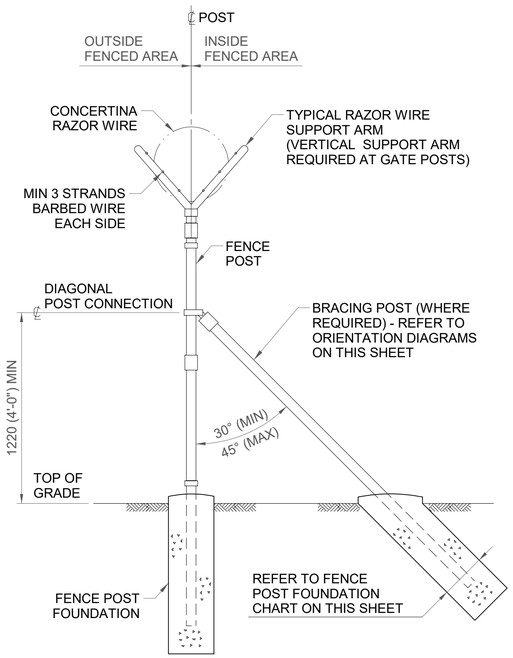
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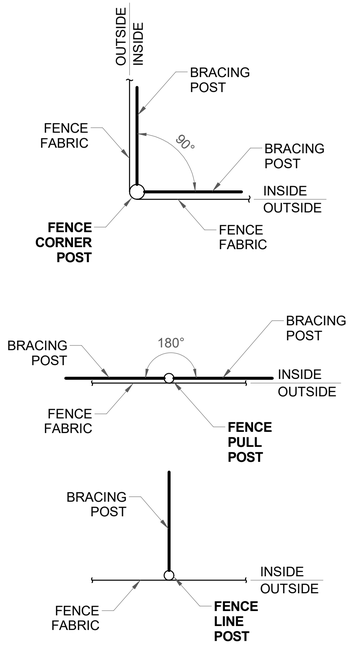
TITLE
STANDARD DRAWING
FENCE AND GATE
NOTES
METRIC (IMPERIAL)

USED ON: GLOBAL
OWNER GROUP: CIVIL/STRUCTURAL
RELEASE PURPOSE: ISSUED FOR DESIGN
REFERENCE:
DOC No: STD-ENG-CV027
SCALE: NONE
SHEET: 003



SECTION A

TYPICAL POST WITH BRACE
FABRIC NOT SHOWN FOR CLARITY
SIMILAR FOR CONCRETE POST
ASSEMBLY



BRACING POST ORIENTATION DIAGRAMS -

ALL ACCESS GATES (NOT SHOWN) REQUIRE AT LEAST ONE BRACING POST INSTALLED IN THE PLAN OF THE FENCELINE

FENCE AND GATE POST FOUNDATION CHART				
POST TYPE	**NOMINAL POST DIAMETER OR DIMENSIONS**	**FOUNDATION DIAMETER**	**FOUNDATION DEPTH (MIN)**	**POST EMBEDMENT DEPTH (MIN)**
GATE POST (TYPE 1A/1B AND TYPE 2A/2B)	100 (4")	400 (1'-4")	1015 (3'-4")	915 (3'-0")
GATE POST (TYPE 3A/3B)	150 (6")	510 (1'-8")	1220 (4'-0")	1065 (3'-6")
GATE POST FOR SWING GATES >10.84 m (36'-0") WIDE OR SPECIALTY GATES	200 (8")	660 (2'-2")	1370 (4'-6")	1220 (4'-0")
CORNER POST (STEEL)	100 (4")	305 (1'-0")	1015 (3'-4")	915 (3'-0")
CORNER POST (CONCRETE)	125 (5") OR 150 (6") SQUARE	510 (1'-8")	1220 (4'-0")	1065 (3'-6")
LINE (INTERMEDIATE) POST (STEEL)	65 (2 1/2")	250 (10")	1015 (3'-4")	915 (3'-0")
LINE (INTERMEDIATE) POST (CONCRETE)	125x100 (5"x4")	450 (1'-6")	1100 (3'-8")	975 (3'-3")
DIAGONAL (BRACING) POST (STEEL)	65 (2 1/2")	305 (1'-0")	1015 (3'-4")	915 (3'-0")
DIAGONAL (BRACING) POST (CONCRETE)	100 (4") SQUARE	400 (1'-4")	1015 (3'-4")	915 (3'-0")

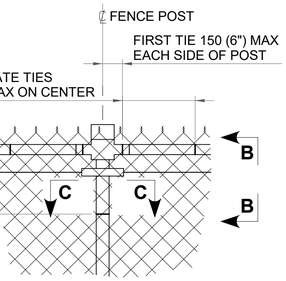
NOTES:
FENCE POST FOUNDATIONS SHALL BE DESIGNED TO ALIGN WITH PROJECT OR SITE-SPECIFIC CRITERIA, SUCH AS FROST DEPTH, WHICH MAY GOVERN FOUNDATION DEPTH.

FENCE POST EMBEDMENT DEPTH SHALL MAINTAIN A CLEAR DISTANCE OF 100mm (4") MINIMUM FROM THE BOTTOM OF THE FOUNDATION. EMBEDMENT DEPTH MAY BE ADJUSTED FOR DEEPER FOUNDATIONS.

FENCE/GATE POST AND RAIL CHART				
FENCE POST TYPE	**PIPE SIZE (NOMINAL DIAMETER)**	**SCHEDULE**	**MATERIAL**	**FINISH**
SWING GATE POST < 3.96 m (13'-0") WIDE - SINGLE < 7.92 m (26'-0") WIDE - DOUBLE	100 (4")	STD WT	CARBON STEEL	GALVANIZED
SWING GATE POST OR SLIDING GATE POST >3.96 m (13'-0") WIDE UP TO 10.84 m (36'-0") WIDE	150 (6")			
SWING GATE POST OR SLIDING GATE POST >10.84 m (36'-0") WIDE	200 (8")			
CORNER POST	100 (4")			
LINE POST	65 (2 1/2")			
BRACING POST	65 (2 1/2")			
FENCE RAIL TYPE	**PIPE SIZE (NOMINAL DIAMETER)**	**SCHEDULE**	**MATERIAL**	**FINISH**
TOP RAIL	40 (1 1/2")	STD WT	CARBON STEEL	GALVANIZED
MID RAIL	40 (1 1/2")			

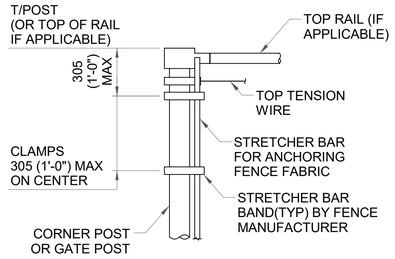
NOTE:
MATERIAL SUBSTITUTIONS SHALL BE PROVIDED ON PROJECT-SPECIFIC DESIGN DRAWINGS.

NOTES:



FABRIC SELVAGE DETAIL -

TYPICAL TOP AND BOTTOM
RAIL, POST OR TENSION WIRE
NOT SHOWN FOR CLARITY

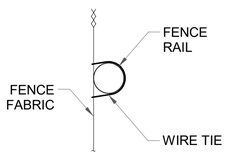


TYP FENCE ASSEMBLY @ GATE/CORNER POST -

FABRIC, CONCERTINA RAZOR WIRE AND SUPPORT BRACKET
NOT SHOWN FOR CLARITY

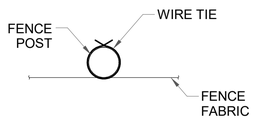
FENCE FABRIC TIES -

CONCERTINA RAZOR WIRE
AND SUPPORT BRACKET NOT
SHOWN FOR CLARITY



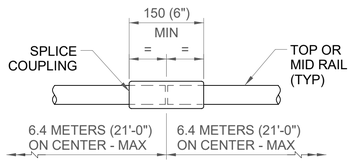
SECTION B

FENCE POST, CONCERTINA
RAZOR WIRE AND SUPPORT
BRACKET NOT SHOWN FOR
CLARITY

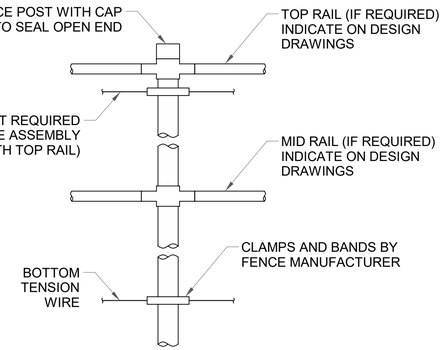


SECTION C

MID RAIL NOT SHOWN



SLEEVE COUPLING DETAIL -



TYP FENCE ASSEMBLY @ LINE POST -

FABRIC NOT SHOWN FOR CLARITY

NOTE:
FOR PROJECTS/LOCATIONS WHEREIN THE HOST NATIONS FENCING STANDARDS EXCEED AIR PRODUCTS' DESIGN, OR ARE MORE STRINGENT THAN THE REQUIREMENTS DEFINED ON THIS DRAWING, LOCAL CODE SHALL BE FOLLOWED IN LIEU OF THE CONTENTS OF THIS STANDARD DRAWING. EXAMPLES INCLUDE: HCIS /CICPA FACILITIES IN THE MIDDLE EAST, FACILITIES IN UZBEKISTAN, REQUIREMENTS DRIVEN BY FACILITY K-RATING, ETC.

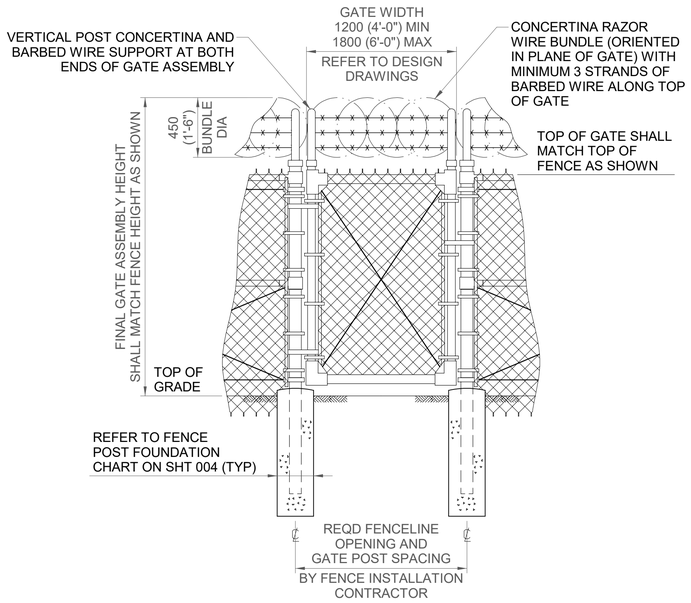
REV	CN No	REVISION DESCRIPTION	DATE	BY	CHK'D	APP'D
00		ISSUED FOR DESIGN	24JUL24	CJR	DPK	DPK

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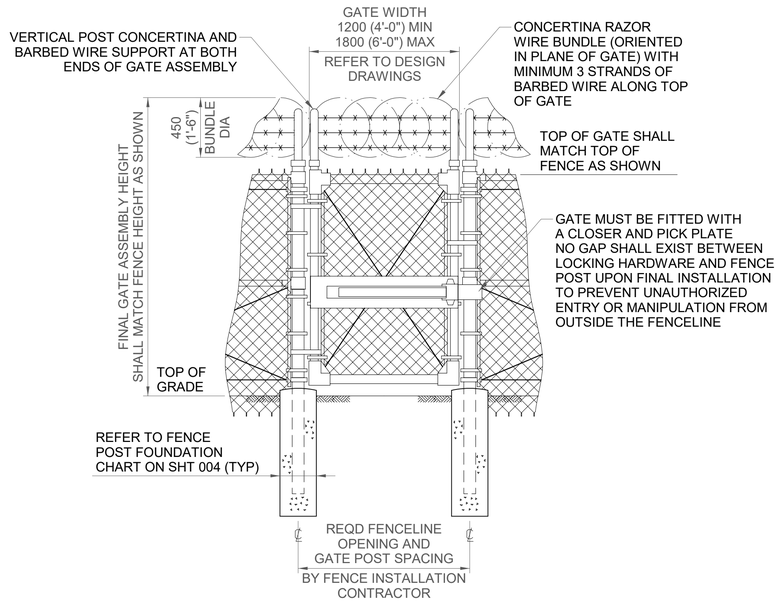
TITLE
STANDARD DRAWING
FENCE AND GATE
DETAILS
METRIC (IMPERIAL)

USED ON	GLOBAL
OWNER GROUP	CIVIL/STRUCTURAL
RELEASE PURPOSE	ISSUED FOR DESIGN
REFERENCE	
DOC No	STD-ENG-CV027
SCALE	NONE
SHEET	004



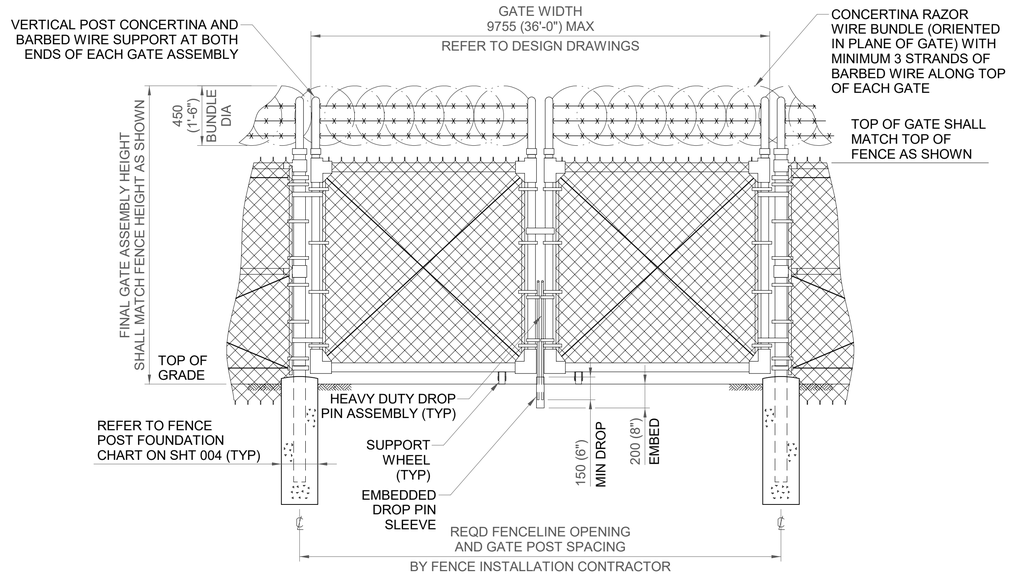
SINGLE SWING GATE TYPE 1

PEDESTRIAN ACCESS THRU STANDARD SECURITY FENCE
ALL GATE HINGES ARE REQUIRED TO BE CAPPED AND INSTALLED INVERTED
REFER TO 'FENCE INSTALLATION CONTRACTOR NOTES' ON SHT 003
FOR ADDITIONAL INFORMATION AND REQUIREMENTS



SINGLE SWING GATE TYPE 2

PEDESTRIAN EMERGENCY/PANIC EXIT THRU STANDARD SECURITY FENCE
ALL GATE HINGES ARE REQUIRED TO BE CAPPED AND INSTALLED INVERTED
REFER TO 'FENCE INSTALLATION CONTRACTOR NOTES' ON SHT 003
FOR ADDITIONAL INFORMATION AND REQUIREMENTS



DOUBLE SWING GATE TYPE 3

MAINTENANCE ACCESS THRU STANDARD SECURITY FENCE
ALL GATE HINGES ARE REQUIRED TO BE CAPPED AND INSTALLED INVERTED
REFER TO 'FENCE INSTALLATION CONTRACTOR NOTES' ON SHT 003
FOR ADDITIONAL INFORMATION AND REQUIREMENTS

NOTES:

NOTE:
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REV	CN No	REVISION DESCRIPTION	DATE	BY	CHK'D	APP'D
00		ISSUED FOR DESIGN	24JUL24	CJR	DPK	DPK

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TITLE: STANDARD DRAWING FENCE AND GATE
SWING GATES
METRIC (IMPERIAL)

USED ON: GLOBAL
OWNER GROUP: CIVIL/STRUCTURAL
RELEASE PURPOSE: ISSUED FOR DESIGN
REFERENCE:
DOC No: STD-ENG-CV027
SCALE: NONE
SHEET: 005