



ISOMETRIC IFC - CHECK LIST

| | | | | | |
|------------------------------------|---|---|--|------------------------------|--|
| Line Number | 021601WSS0016 | | Stress CN / Level | Nº 021 | Level: I |
| Isometric Number | 023A1021601WSS0016_01 | | Process Approval Required | YES <input type="checkbox"/> | NO <input checked="" type="checkbox"/> |
| | | | Intrumentation Approval Required (N/A) | YES <input type="checkbox"/> | NO <input checked="" type="checkbox"/> |
| <i>Information to be attached:</i> | | | | | |
| Master Copy of PID: | YES <input checked="" type="checkbox"/> | N/A <input type="checkbox"/> | Nº 800124-026-PID-0021-027-1 | Rev. | |
| PID Modification Sheet: | YES <input type="checkbox"/> | N/A <input checked="" type="checkbox"/> | Nº | Rev. | |
| Equipment Vendor Dwg.: | YES <input checked="" type="checkbox"/> | N/A <input type="checkbox"/> | Nº | Rev. | |
| Instrument Dwg.: | YES <input type="checkbox"/> | N/A <input checked="" type="checkbox"/> | Nº | Rev. | |
| Project By-Pass ^(*) : | YES <input type="checkbox"/> | N/A <input checked="" type="checkbox"/> | Nº BFLY-BYP-STU-ISOS-031 | Rev. | |
| SPO Approved Isometric: | YES <input type="checkbox"/> | N/A <input checked="" type="checkbox"/> | Rev. | Extraction Date: | |
| SIT Approved Isometric: | YES <input type="checkbox"/> | N/A <input checked="" type="checkbox"/> | Rev. | Extraction Date: | |



TechnipFMC – Butterfly Project

HOLDS

| HOLDS | | |
|-------|-------------------|--------------|
| Nº | SHORT DESCRIPTION | RESOLVED (✓) |
| | | |
| | | |
| | | |
| | | |

A VERIFICAR / TO BE CHECKED

REVISIONS TO BE CHECKED
Revision By : (D) Designer / (LDG) Design Leader / (ST) Stress Specialist / (LST) Stress Leader /
(SP) Supports Specialist / (LSP) Supports leader / (M) Materials / (SL) Spooler / (CHK) Issuer / (L) Discipline Lead

"N/A"
NO APlica /

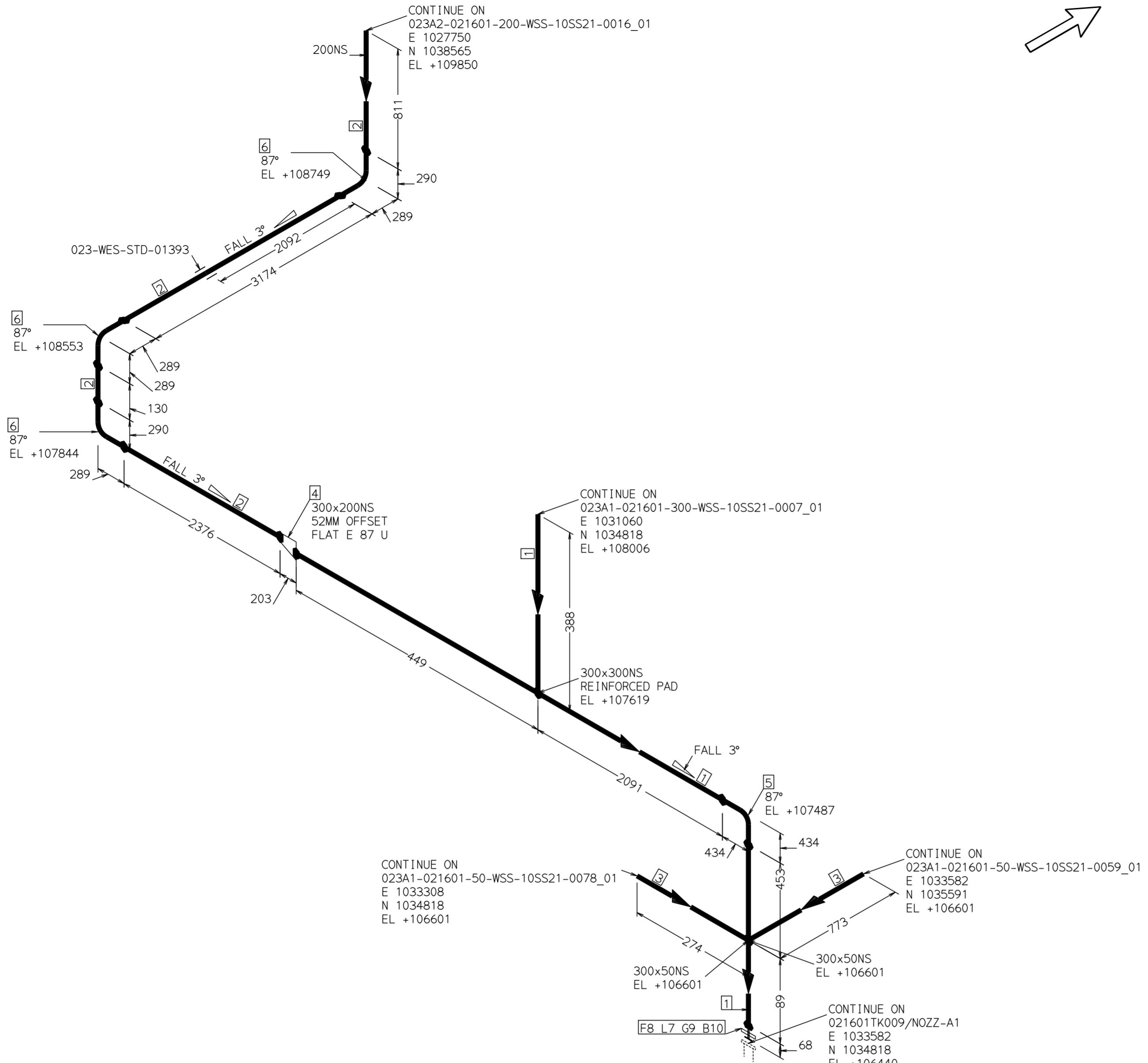
SIGNATURES (Name and date)

| DESIGN LEADER (LD) | REVIEWED By rvasquezhu at 3:05 pm, Jan 29, 2021 | SUPPORTS LEADER (LSP) | REVIEWED By Sergio Zamora at 1:04 pm, Feb 02, 2021 | ISSUER (CHK) | REVIEWED By oscar at 4:10 pm, Feb 04, 2021 |
|---------------------|---|-----------------------|---|---------------------|--|
| STRESS LEADER (LST) | REVIEWED By lili.li at 4:00 pm, Feb 03, 2021 | MATERIALS (M) | REVIEWED By lily.li & xiaoyu.guo at 4:00 pm, Feb 03, 2021 | DISCIPLINE LEAD (L) | |

10

- NOTES:**

 - [1] If "X" marqued, a "HOLD" note should be included in the Holds area for justification.
 - [2] 1st checking round: Checker to place a or a (X) confirming or not Designer verification. A or a (X) should also be placed to confirm or reject any (X) mark placed by the Designer confirming or not the implicit HOLD.
 - [3] 2nd checking round: Checker to place a to validate the points that were not confirmed in the 1st round and were corrected by respective Specialist.
 - [4] If an isometric with HOLD is approved by IFC Leader for issuance, the correspondent By-Pass should be attached.



| MATERIAL LIST - FABRICATION | | | | | |
|-----------------------------|-----------|--|----------|------|--|
| PT NO | N.S. (MM) | DESCRIPTION | IDENT | QTY | |
| 1 | 300 | Pipes (Length), EN 10220, BE, EFW + 100% RT, -, /2.6MM EN 10217-7 Gr.X2CrNi19-11, | C1P0FP2S | 3.5M | |
| 2 | 200 | Pipes (Length), EN 10220, BE, EFW + 100% RT, -, /2MM EN 10217-7 Gr.X2CrNi19-11, | C1P0FPG0 | 6.5M | |
| 3 | 50 | Pipes (Length), EN 10220, BE, EFW + 100% RT, -, /2MM EN 10217-7 Gr.X2CrNi19-11, | C1KV256V | 0.8M | |
| 4 | 300 x 200 | Ecc Reducer, EN 10253-4 Type B, BW Ends, Welded + 100% RT, Serie 1, /2.6MM/2MM EN 10253-4 Gr.X2CrNi19-11, | C1TJF5C8 | 1 | |
| 5 | 300 | 90° Elb LR, EN 10253-4 Type A, BW Ends, Welded + 100% RT, M.3D, Serie 1, /2.6MM EN 10253-4 Gr.X2CrNi19-11, | C1KXKEK6 | 1 | |
| 6 | 200 | 90° Elb LR, EN 10253-4 Type A, BW Ends, Welded + 100% RT, M.3D, Serie 1, /2MM EN 10253-4 Gr.X2CrNi19-11, | C1KXKEKG | 3 | |
| 7 | 300 | Stub LP, EN 1092-1 Type 36, BW Ends, Seamless, PN10 Flgs, /3.2MM EN 10216-5 Gr.X2CrNi19-11, | C3J5USZ9 | 1 | |
| 8 | 300 | LJ Flg, EN 1092-1 Type 02, FF, PN 10, -, / EN 10222-2 Gr. P245GH Galv. as per EN 10240, | C1KXSGY2 | 1 | |

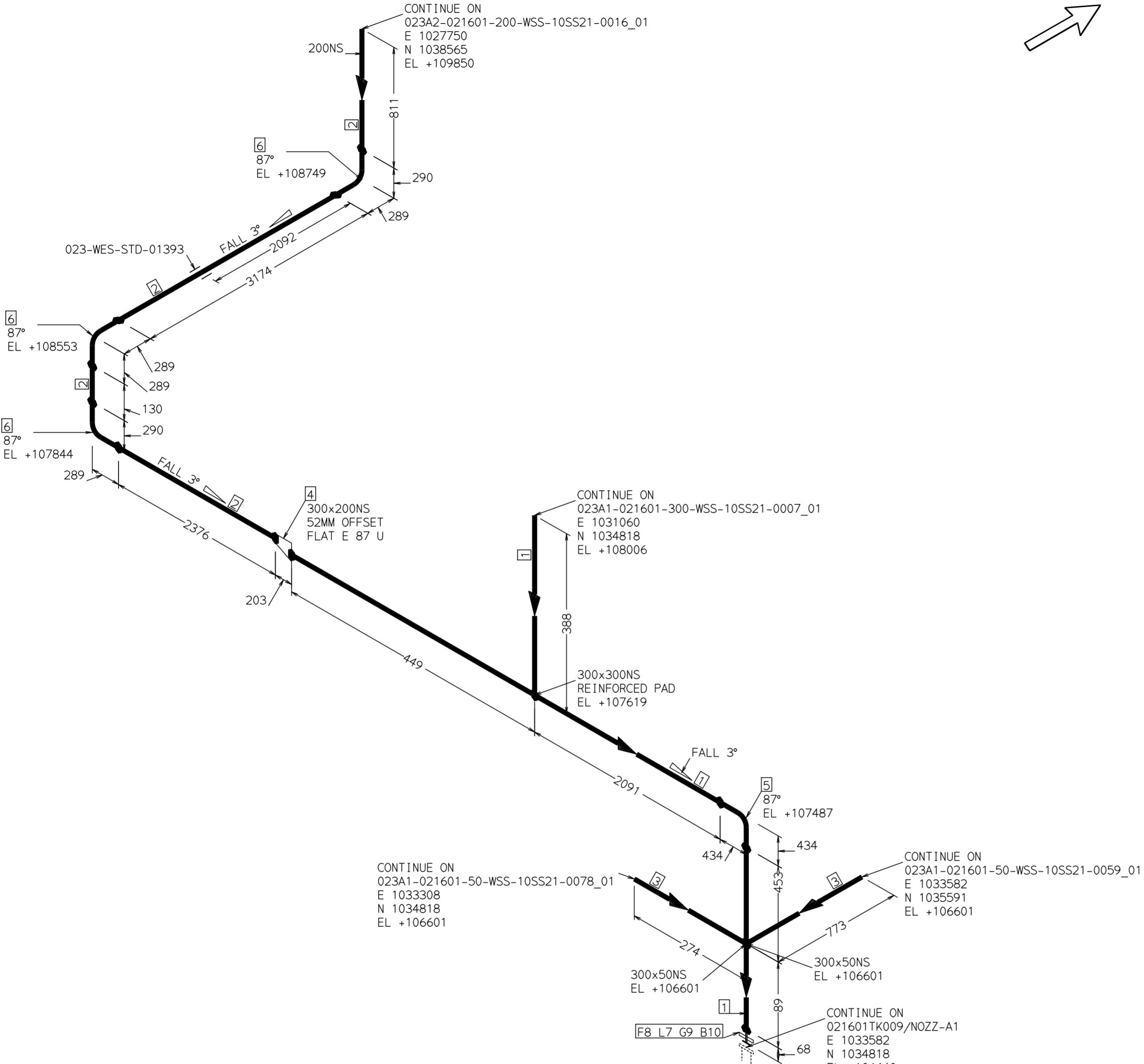
| MATERIAL LIST - ERECTION | | | | |
|--------------------------|-----------|---|----------|-----|
| PT NO | N.S. (MM) | DESCRIPTION | IDENT | QTY |
| 9 | 300 | NM Flat Gk, EN 1514-1, RF as per EN 1092-1, PN 10, IBC Type, Thk=3.2mm, Klingsersil C-4430, TA-Luft & EC1935 (D.S. 5101)/ CNAF, | C1MSERAT | 1 |
| 10 | 20 | 140 SBLt 2 HHx N&2W, ISO 261/ISO 4032, Full Length Threaded, F.Wash. EN ISO 887, A2, EN ISO 7089 ISO 3506-1 Gr.A2-70. | C3JHBDB2 | 12 |

PIPING DPT.
ISSUER
CHECKED

By oscar at 4:08 pm - Feb 04, 2021

| | | | | | |
|-----|----------|------|------|-----|-------------------------------|
| | | | | | |
| | | | | | |
| 0 | 29/01/21 | AF | LP | OMC | IFC - ISSUED FOR CONSTRUCTION |
| REV | DATE | DWYM | CHMK | APP | DESCRIPTION |

All dimensions to be checked in field prior to construction. Dimensions and routing shall be field adjusted, it is the piping contractors responsibility to check and verify all closing dimensions to equipment and make adjustments as required in field. All dimensions, elevations and coordinates are in millimeter unless noted otherwise. Fieldwelds and overlengths to be determined by piping contractor. Bolt holes to straddle horizontal and vertical centerline unless shown otherwise. Contractor will provide all necessary pipe supports.


MATERIAL LIST - FABRICATION

| PT NO | N.S. (MM) | DESCRIPTION | IDENT | QTY |
|-------|-----------|---|----------|------|
| 1 | 300 | Pipes (Length), EN 10220, BE, EFW + 100% RT, -, /2.6MM EN 10217-7 Gr.X2CrNi19-11, | C1P0FP2S | 3.5M |
| 2 | 200 | Pipes (Length), EN 10220, BE, EFW + 100% RT, -, /2MM EN 10217-7 Gr.X2CrNi19-11, | C1P0FPG0 | 6.5M |
| 3 | 50 | Pipes (Length), EN 10220, BE, EFW + 100% RT, -, /2MM EN 10217-7 Gr.X2CrNi19-11, | C1KV256V | 0.8M |
| 4 | 300 x 200 | Ecc Reducer, EN 10253-4 Type B, BW Ends, Welded + 100% RT, Serie 1, /2.6MM/2MM EN 10253-4 Gr.X2CrNi19-11, | C1TJF5C8 | 1 |
| 5 | 300 | 90° Elb LR, EN 10253-4 Type A, BW Ends, Welded + 100% RT, C1KXKEK6 M.3D, Serie 1, /2.6MM EN 10253-4 Gr.X2CrNi19-11, | 1 | |
| 6 | 200 | 90° Elb LR, EN 10253-4 Type A, BW Ends, Welded + 100% RT, C1KXKEKG M.3D, Serie 1, /2MM EN 10253-4 Gr.X2CrNi19-11, | 3 | |
| 7 | 300 | Stub LP, EN 1092-1 Type 36, BW Ends, Seamless, PN10 Flgs, /3.2MM EN 10216-5 Gr.X2CrNi19-11, | C3J5USZ9 | 1 |
| 8 | 300 | LJ Flg, EN 1092-1 Type 02, FF, PN 10, -, / EN 10222-2 Gr. P245GH Galv. as per EN 10240, | C1KXSGY2 | 1 |

MATERIAL LIST - ERECTION

| PT NO | N.S. (MM) | DESCRIPTION | IDENT | QTY |
|-------|-----------|--|----------|-----|
| 9 | 300 | NM Flat Gk, EN 1514-1, RF as per EN 1092-1, PN 10, IBC Type, Thk=3.2mm, Klingsil C-4430, TA-Luft & EC1935 (D.S. 5101)/ CNAF, | C1MSERAT | 1 |
| 10 | 20 | 140 SBLT 2 HHx N&2W, ISO 261/ISO 4032, Full Length Threaded, F.Wash. EN ISO 887, A2, EN ISO 7089 ISO 3506-1 Gr.A2-70, | C3JHBDB2 | 12 |

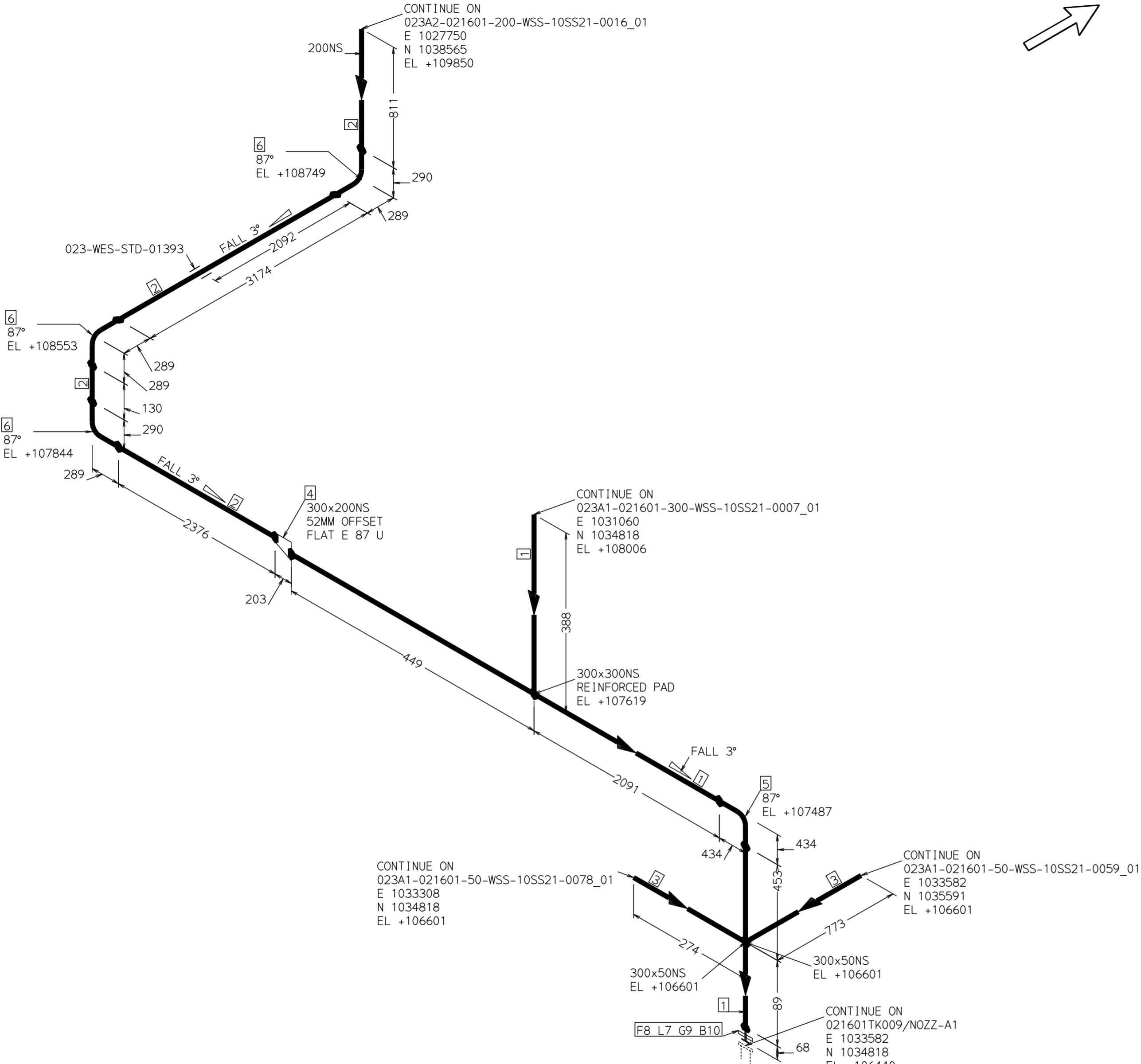
**PIPING DPT.
MATERIALS
CHECKED**

By Jose G. Suarez at 4:57 pm, Feb 03, 2021

| | | | | | |
|--|-------------|----------------------------|-----|-----|-------------------------------|
| 0 | 29/01/21 | AF | LP | OMC | IFC - ISSUED FOR CONSTRUCTION |
| REV | DATE | DWN | CHK | APP | DESCRIPTION |
| ALL dimensions to be checked in field prior to construction. Dimensions and routing shall be field adjusted, it is the piping contractors responsibility to check and verify all closing dimensions to equipment and make adjustments as required in field. All dimensions, elevations and coordinates are in millimeter unless noted otherwise. Fieldwelds and overlengths to be determined by piping contractor. Bolt holes to straddle horizontal and vertical centerline unless shown otherwise. Contractor will provide all necessary pipe supports. | | | | | |
| | | | | | |
| PROCESS UNIT | DESIGN AREA | LINE NUMBER | | | TRAIN SHEET REV |
| 026 | 023A1 | 021601-200-WSS-10SS21-0016 | | | 01 1 OF 1 0 |

NOTES:

For pipes < dn50 supporting to be studied and defined by construction contractor before line fabrication and installation.



NOTES:
For pipes < dn50 supporting to be studied and defined by construction contractor before line fabrication and installation.

REFERENCES / DOCUMENTS

| LINE LIST | 30201-042-001000-001 |
|-----------------|----------------------|
| ISOMETRIC INDEX | 30303-042-023000-200 |
| PIPING SUPPORT | 30207-042-021300-001 |

SPEC

SYMBOLIC

10SS21

BUTTERFLY PROJECT/KREFELD

TechnipFMC

Cargill

PROJECT DESCRIPTION/LOCATION

LINE NUMBER

TRAIN

SHEET

REV

Insulated Pipe

Insulated and Traced Pipe

PROCESS UNIT

DESIGN AREA

APP

DESCRIPTION

IFC - ISSUED FOR CONSTRUCTION

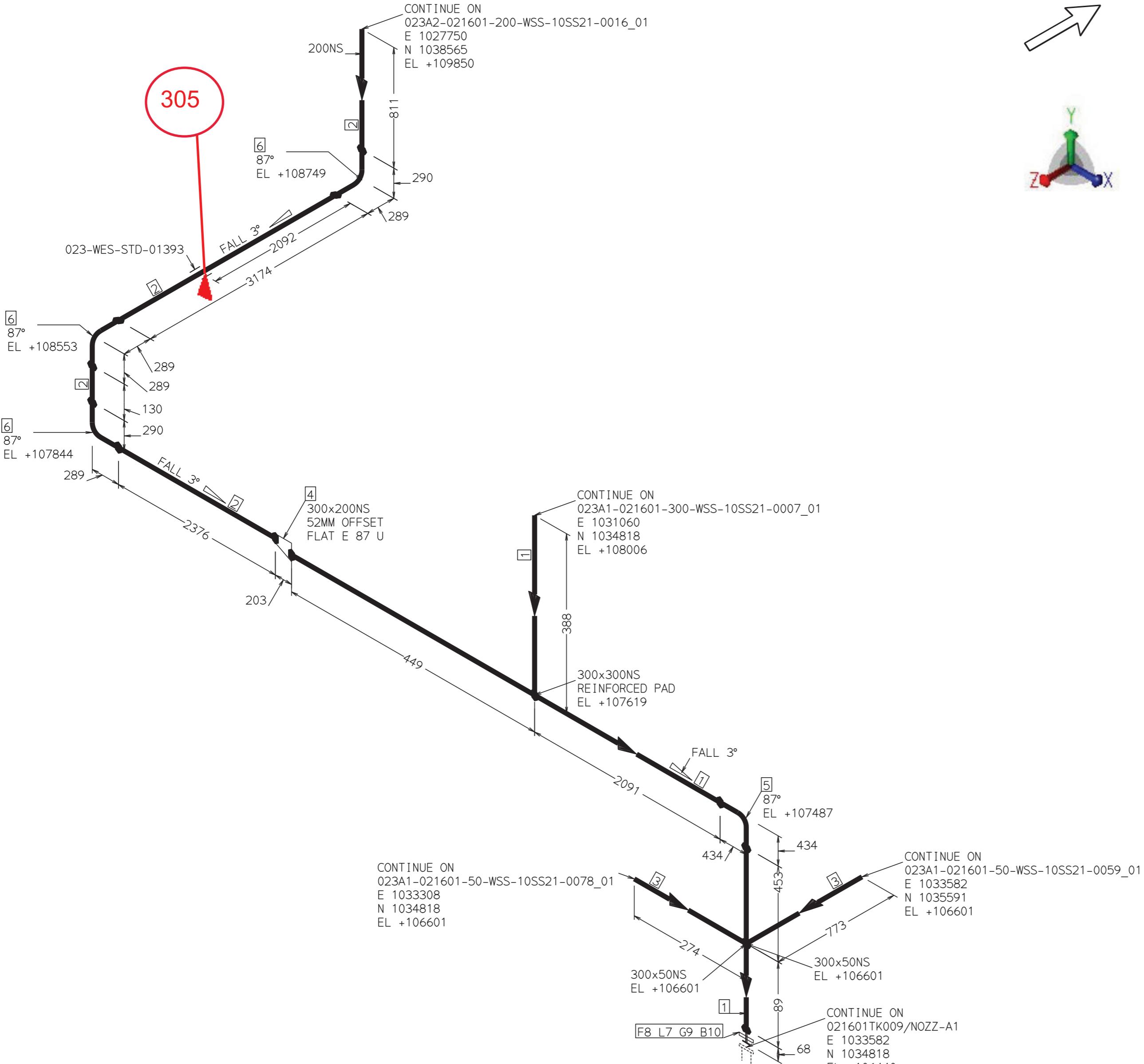
AF

LP

OMC

| | | | | | |
|-----|----------|-----|-----|-----|-------------------------------|
| 0 | 29/01/21 | AF | LP | OMC | IFC - ISSUED FOR CONSTRUCTION |
| REV | DATE | DWN | CHK | APP | DESCRIPTION |
| | | | | | |
| | | | | | |
| | | | | | |

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MATERIAL LIST - FABRICATION

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|-------|-----------|---|----------|------|
| 1 | 300 | Pipes (Length), EN 10220, BE, EFW + 100% RT, -, /2.6MM EN 10217-7 Gr.X2CrNi19-11, | C1P0FP2S | 3.5M |
| 2 | 200 | Pipes (Length), EN 10220, BE, EFW + 100% RT, -, /2MM EN 10217-7 Gr.X2CrNi19-11, | C1P0FPG0 | 6.5M |
| 3 | 50 | Pipes (Length), EN 10220, BE, EFW + 100% RT, -, /2MM EN 10217-7 Gr.X2CrNi19-11, | C1KV256V | 0.8M |
| 4 | 300 x 200 | Ecc Reducer, EN 10253-4 Type B, BW Ends, Welded + 100% RT, Serie 1, /2.6MM/2MM EN 10253-4 Gr.X2CrNi19-11, | C1TJF5C8 | 1 |
| 5 | 300 | 90° Elb LR, EN 10253-4 Type A, BW Ends, Welded + 100% RT, C1KXKEK6 M.3D, Serie 1, /2.6MM EN 10253-4 Gr.X2CrNi19-11, | 1 | |
| 6 | 200 | 90° Elb LR, EN 10253-4 Type A, BW Ends, Welded + 100% RT, C1KXKEKG M.3D, Serie 1, /2MM EN 10253-4 Gr.X2CrNi19-11, | 3 | |
| 7 | 300 | Stub LP, EN 1092-1 Type 36, BW Ends, Seamless, PN10 Flgs, /3.2MM EN 10216-5 Gr.X2CrNi19-11, | C3J5USZ9 | 1 |
| 8 | 300 | LJ Flg, EN 1092-1 Type 02, FF, PN 10, -, / EN 10222-2 Gr. P245GH Galv. as per EN 10240, | C1KXSGY2 | 1 |

MATERIAL LIST - ERECTION

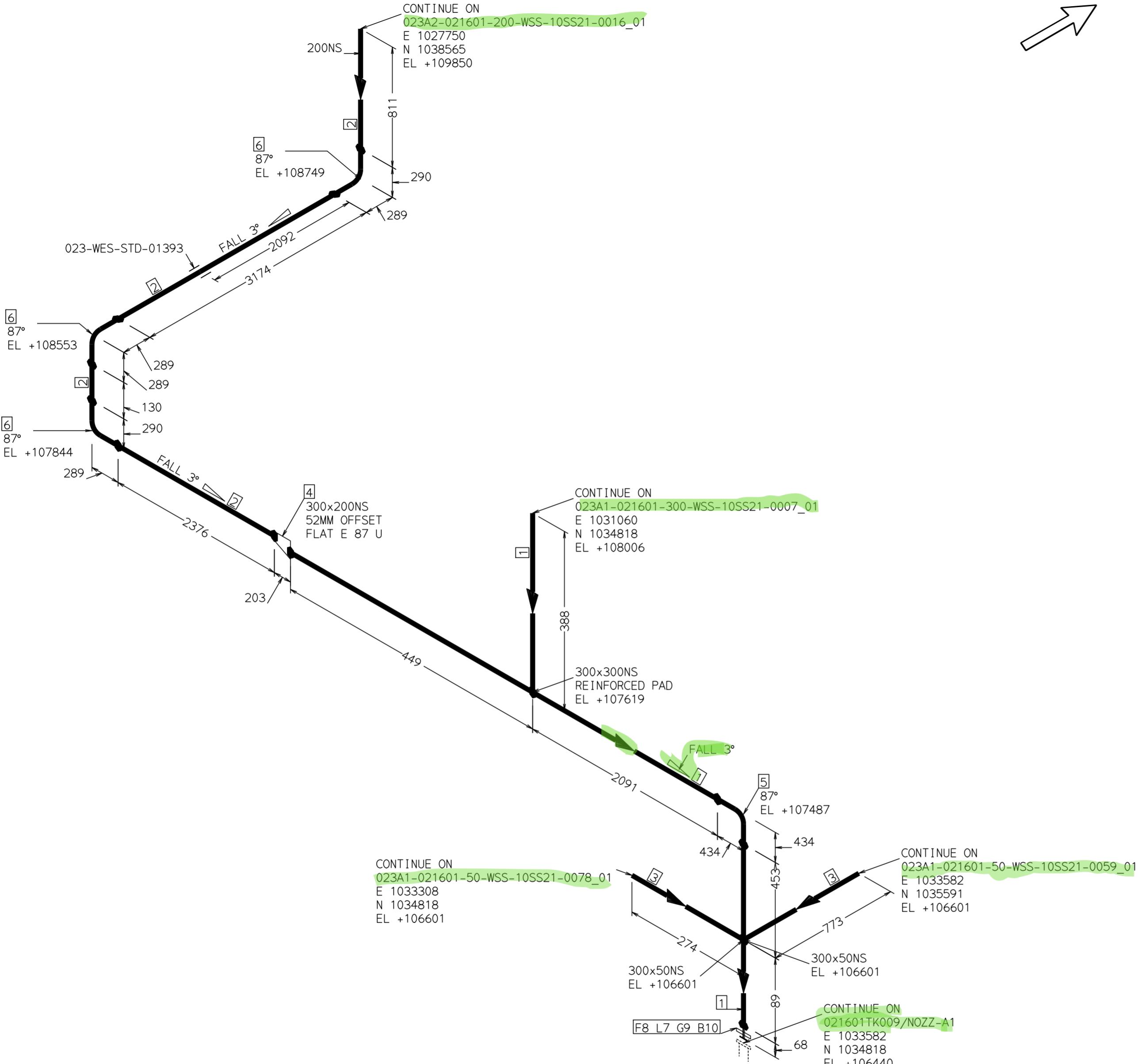
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| 10 | 20 | 140 SBLT 2 HHx N&2W, ISO 261/ISO 4032, Full Length Threaded, F.Wash. EN ISO 887, A2, EN ISO 7089 ISO 3506-1 Gr.A2-70, | C3JHBDB2 | 12 |

**PIPING DPT.
STRESS
MASTER**
By Carlos Hernández Orense at 3:23 pm, Feb 01, 2021

| | | | | | |
|-----|----------|-----|-----|-----|-------------------------------|
| 0 | 29/01/21 | AF | LP | OMC | IFC - ISSUED FOR CONSTRUCTION |
| REV | DATE | DWN | CHK | APP | DESCRIPTION |

ALL dimensions to be checked in field prior to construction. Dimensions and routing shall be field adjusted, it is the piping contractors responsibility to check and verify all closing dimensions to equipment and make adjustments as required in field. All dimensions, elevations and coordinates are in millimeter unless noted otherwise. Fieldwelds and overlengths to be determined by piping contractor. Bolt holes to straddle horizontal and vertical centerline unless shown otherwise. Contractor will provide all necessary pipe supports.

| NOTES: | REFERENCES / DOCUMENTS | SPEC | | 10SS21 | | PROJECT DESCRIPTION/LOCATION | | | TechnipFMC | Cargill |
|--------------|------------------------|----------------------------|----------------|---------------------------|-------|------------------------------|-----|--|------------|---------|
| | | SYMBOLS | | BUTTERFLY PROJECT/KREFELD | | | | | | |
| | LINE LIST | 30201-042-001000-001 | Insulated Pipe | Insulated and Traced Pipe | | | | | | |
| | ISOMETRIC INDEX | 30303-042-023000-200 | | | | | | | | |
| | PIPING SUPPORT | 30207-042-021300-001 | | | | | | | | |
| PROCESS UNIT | DESIGN AREA | LINE NUMBER | | | TRAIN | sheet | REV | | | |
| 026 | 023A1 | 021601-200-WSS-10SS21-0016 | | | 01 | 1 OF 1 | 0 | | | |



MATERIAL LIST - FABRICATION

| PT NO | N.S. (MM) | DESCRIPTION | IDENT | QTY |
|-------|-----------|---|----------|------|
| 1 | 300 | Pipes (Length), EN 10220, BE, EFW + 100% RT, -, /2.6MM EN 10217-7 Gr.X2CrNi19-11, | C1P0FP2S | 3.5M |
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| 5 | 300 | 90° Elb LR, EN 10253-4 Type A, BW Ends, Welded + 100% RT, C1KXKEK6 M.3D, Serie 1, /2.6MM EN 10253-4 Gr.X2CrNi19-11, | C1KXKEK6 | 1 |
| 6 | 200 | 90° Elb LR, EN 10253-4 Type A, BW Ends, Welded + 100% RT, C1KXKEKG M.3D, Serie 1, /2MM EN 10253-4 Gr.X2CrNi19-11, | C1KXKEKG | 3 |
| 7 | 300 | Stub LP, EN 1092-1 Type 36, BW Ends, Seamless, PN10 Flgs, /3.2MM EN 10216-5 Gr.X2CrNi19-11, | C3J5USZ9 | 1 |
| 8 | 300 | Flg, EN 1092-1 Type 02, FF, PN 10, -, / EN 10222-2 Gr. P245GH Galv. as per EN 10240, | C1KXSGY2 | 1 |

MATERIAL LIST - ERECTION

| PT NO | N.S. (MM) | DESCRIPTION | IDENT | QTY |
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| 10 | 20 | 140 SBL 2 HHx N&2W, ISO 261/ISO 4032, Full Length Threaded, F.Wash. EN ISO 887, A2, EN ISO 7089 ISO 3506-1 Gr.A2-70, | C3JHBDB2 | 12 |

PIPING DPT.
DESIGNED

By Andrea Ferranti at 2:53 pm, Jan 29, 2021

PIPING DPT.
**DESIGN
CHECKED**

By rvasquezhu at 3:06 pm, Jan 29, 2021

0 29/01/21 AF LP OMC IFC - ISSUED FOR CONSTRUCTION

REV DATE DWN CHK APP DESCRIPTION

ALL dimensions to be checked in field prior to construction. Dimensions and routing shall be field adjusted, it is the piping contractors responsibility to check and verify all closing dimensions to equipment and make adjustments as required in field. All dimensions, elevations and coordinates are in millimeter unless noted otherwise. Fieldwelds and overlengths to be determined by piping contractor. Bolt holes to straddle horizontal and vertical centerline unless shown otherwise. Contractor will provide all necessary pipe supports.

NOTES:

For pipes < dn50 supporting to be studied and defined by construction contractor before line fabrication and installation.

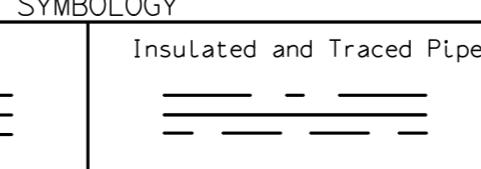
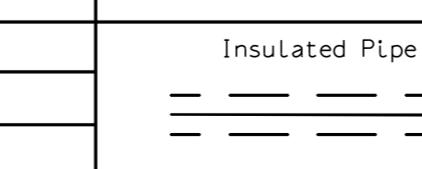
REFERENCES / DOCUMENTS

| LINE LIST | 30201-042-001000-001 |
|-----------------|----------------------|
| ISOMETRIC INDEX | 30303-042-023000-200 |
| PIPING SUPPORT | 30207-042-021300-001 |

SPEC

SYMBOLS

10SS21



PROJECT DESCRIPTION/LOCATION

BUTTERFLY PROJECT/KREFELD

TechnipFMC

Cargill

PROCESS UNIT

DESIGN AREA

LINE NUMBER

TRAIN

SHEET

REV

026 023A1 021601-200-WSS-10SS21-0016 01 1 OF 1 0