DIVISION 1 - GENERAL
5.2 CHANNELS, ANGLES, BARS, PLATES AND RODS: ASTM A 36 WITH YIELD STRESS OF 36,000
5.1 DESIGN AND CONSTRUCTION STANDARD - AMERICAN INSTITUTE OF STEEL CONSTRUCTION, DIVISION 32  EXTERIOR IMPROVEMENTS
5.5 ALL WELDING SHALL BE MADE WITH E70XX LOW HYDROGEN ELECTRODES AND SHALL

DIVISION 9 FINISHES
5.6 ALL METAL FABRICATIONS SHALL BE HOT DIP GALVANIZED FOLLOWING FABRICATION.

32.4 COORDINATE WITH OWNER TO RELOCATE ANY SIGNS THAT INTERFERE WITH THE
32.5 ALL THREADED RODS, MECHANICAL ANCHORS, AND ASSOCIATED HARDWARE SHALL
32.6 ALL CHAIN LINK FABRIC, FRAMEWORK, TENSION BARS, FITTINGS AND TIE WIRE SHALL

ACI 362.1R-12  "GUIDE FOR THE DESIGN AND CONSTRUCTION OF DURABLE CONCRETE
BE GALVANIZED.
BE STAINLESS STEEL.

H.  PROGRESS MEETINGS
1. PROGRESS MEETINGS WILL BE HELD ONCE EVERY 2 WEEKS DURING CONSTRUCTION.

C.  DUST CONTROL
1. THE FOLLOWING REQUIREMENTS APPLY TO CONCRETE AND SAW CUTTING WORK
2. CITY OF ANN ARBOR NOISE ORDINANCE WILL GOVERN OPERATIONS.

D. CONCRETE AND SAW CUTTING WORK
1. ANY USED CHEMICAL PRODUCTS OR SOLVENTS INCLUDING CHEMICAL AND SOLVENT
2. DISCHARGE OF WATER, DUST OR DEBRIS FROM CONCRETE WORK TO STORM OR
3. PROTECT PEDESTRIAN TRAFFIC THROUGHOUT THE STRUCTURE AND ON SIDEWALKS
4. WHERE DIMENSIONS ARE INDICATED FOR EXISTING STRUCTURES, THEY ARE

COMMUNITY PROPERTIES
A. MICHIGAN BUILDING CODE, CURRENT EDITION
A. SUPPORTED PARKING AND DRIVE AREAS                   50 PSF
D. CONCENTRATED WHEEL LOAD ACTING ON 20 SQ. IN. AREA    2,000 LBS

GALV = GALVANIZED
DTL = DETAIL
MAX = MAXIMUM
SHEET NOTES
1. REFER TO G002 FOR GENERAL NOTES.
2. EXISTING GAURDRAILS AT PERIMETER WALLS TO REMAIN.
3. EXISTING ARCHITECTURAL PANEL TO REMAIN.

WORK ITEM NOTES
1. INSTALL BARRIER - TYPE C (SS CABLE), REFER TO DTL 1/AP502.

SYMBOLS LEGEND
- WORK FOR HAMMER, REFER TO LIST BELOW
- BARRIER SCHEDULE MARK
- EXISTING FENCING

WORK ITEM NUMBER, REFER TO LIST BELOW

BARRIER SCHEDULE MARK

EXISTING FENCING

MARK "H" = OPENING HEIGHT

FOURTH & WASHINGTON - LEVEL 6A/6B PLAN

NORTH
1. INSTALL BARRIER - TYPE A (CHAIN LINK), REFER TO DTL 1/AP501.
2. INSTALL BARRIER - TYPE D (CHAIN LINK), REFER TO DTL 4/AP502.
3. INSTALL WING PANEL, REFER TO DTL 1/AP505.

WORK ITEM NOTES

1. REFER TO G002 FOR GENERAL NOTES.
2. EXISTING GAURDRAILS AT PERIMETER WALLS TO REMAIN.
3. RELOCATE EXISTING ELECTRICAL CONDUIT AS NECESSARY.
1. REFER TO G002 FOR GENERAL NOTES.
2. EXISTING FENCING TO REMAIN.
3. DO NOT INSTALL FENCING ACROSS EXPANSION JOINT.

WORK ITEM NOTES
1. INSTALL BARRIER - TYPE A (CHAIN LINK), REFER TO DTL 1/AP501.
2. INSTALL BARRIER - TYPE D (CHAIN LINK), REFER TO DTL 4/AP502.
3. INSTALL WING PANEL, REFER TO DTL 1/AP505.

MARK "H" = OPENING HEIGHT

EXISTING FENCING
H1 60"  G3 89"  G2 80"  G1 74"  F1 84"  E1 47"  D3 61"  D2 63"  D1 67"  C3 24"  C2 31"  C1 42"  B1 54"  A9 48"  A8 82"  A7 70"  A6 60"  A5 54"  A4 50"  A3 49"  A2 44"  A1 59"

MAYNARD - LEVEL 7 PLAN

NORTH
Ann Arbor DDA
Ann Arbor, Michigan
Parking Structure Perimeter Barrier Enhancements

FOREST AVENUE - LEVEL 3 PLAN

- Refer to G002 for general notes.
- Existing guardrails at perimeter walls to remain.
- Refer to plans for specific details and dimensions.

Sheet Notes:
1. Refer to G002 for general notes.
2. Existing guardrails at perimeter walls to remain.
3. Use the schedule to track the details.

Barrier Schedule:

<table>
<thead>
<tr>
<th>Work Item Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Install Barrier - Type E (SS Cable), Refer to DTL 3/AP503.</td>
</tr>
<tr>
<td>2. Install Barrier - Type F (Chain Link), Refer to DTL 1/AP503.</td>
</tr>
</tbody>
</table>

Symbols Legend:
- Work Item Number, Refer to List Below
- Barrier Schedule Mark
- Existing Fencing

Scale: 1/16" = 1'-0"
1. INSTALL BARRIER - TYPE A (CHAIN LINK), REFER TO DTL 1/AP501.
2. INSTALL BARRIER - TYPE G (CHAIN LINK), REFER TO DTL 1/AP504.
3. INSTALL WING PANEL, REFER TO DTL 1/AP505.

EXISTING FENCING

EXISTING GLASS PANEL TO REMAIN.

EXISTING FENCING TO REMAIN.

DO NOT INSTALL FENCING ACROSS EXPANSION JOINT.

RELOCATED EXISTING ELECTRICAL AS NECESSARY.
**LIBERTY SQUARE - LEVEL 3 PLAN**

**SYMBOLS LEGEND**

1. INSTALL BARRIER - TYPE H (CHAIN LINK), REFER TO D TL 3/AP504.
2. INSTALL WING PANEL, REFER TO DTL 1/AP505.

**WORK ITEM NOTES**

1. REFER TO G002 FOR GENERAL NOTES.
2. EXISTING GAURDRAILS AT PERIMETER WALLS TO REMAIN.

**BARRIER SCHEDULE MARK**

<table>
<thead>
<tr>
<th>Work Item Number</th>
<th>Barrier Mark</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>60&quot;</td>
</tr>
<tr>
<td>G3</td>
<td>89&quot;</td>
</tr>
<tr>
<td>G2</td>
<td>80&quot;</td>
</tr>
<tr>
<td>G1</td>
<td>74&quot;</td>
</tr>
<tr>
<td>F1</td>
<td>84&quot;</td>
</tr>
<tr>
<td>E1</td>
<td>47&quot;</td>
</tr>
<tr>
<td>D3</td>
<td>61&quot;</td>
</tr>
<tr>
<td>D2</td>
<td>63&quot;</td>
</tr>
<tr>
<td>D1</td>
<td>67&quot;</td>
</tr>
<tr>
<td>C3</td>
<td>24&quot;</td>
</tr>
<tr>
<td>C2</td>
<td>31&quot;</td>
</tr>
<tr>
<td>C1</td>
<td>42&quot;</td>
</tr>
<tr>
<td>B1</td>
<td>54&quot;</td>
</tr>
<tr>
<td>A9</td>
<td>48&quot;</td>
</tr>
<tr>
<td>A8</td>
<td>82&quot;</td>
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<tr>
<td>A7</td>
<td>70&quot;</td>
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<tr>
<td>A6</td>
<td>60&quot;</td>
</tr>
<tr>
<td>A5</td>
<td>54&quot;</td>
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<td>A4</td>
<td>50&quot;</td>
</tr>
<tr>
<td>A3</td>
<td>49&quot;</td>
</tr>
<tr>
<td>A2</td>
<td>44&quot;</td>
</tr>
<tr>
<td>A1</td>
<td>59&quot;</td>
</tr>
</tbody>
</table>

**EXISTING FENCING**

- A9
- A8
- A7
- A6
- A5
- A4
- A3
- A2
- A1
- G1
- G2
- G3
- H1

**NORTH**

**DRAWN BY**

**DESIGNER**

**REVIEWER**

**MANAGER**

**PROJECT NO.**

**PLOT INFO:**

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**Ann Arbor DDA**
Ann Arbor, Michigan
Parking Structure Perimeter Barrier Enhancements

**03/08/2023 BIDDING & CONSTRUCTION**

**SHEET NO.**

**JBT**

**AP142**

**SCALE: 1/16" = 1'-0"**

**ISOMETRIC KEY PLAN**

**GRADE LEVEL**

LEVEL 2
LEVEL 3
LEVEL 4
LEVEL 5
LEVEL 6
LEVEL 7
LOWER LEVEL

**NOTE:** Hard copy is intended to be 24x36" when plotted. Scale(s) indicated and graphic quality may not be accurate for any other size.

**NORTH**
1. INSTALL BARRIER - TYPE A (CHAIN LINK), REFER TO DTL 1/AP501.
2. INSTALL BARRIER - TYPE B (CHAIN LINK), REFER TO DTL 2/AP501.

WORK ITEM NUMBER, REFER TO LIST BELOW

MARK "H" = OPENING HEIGHT

EXISTING FENCING

SHEET NOTES
1. REFER TO G002 FOR GENERAL NOTES.
2. REMOVE, STORE, AND REINSTALL SIGNAGE, AS NECESSARY, TO INSTALL FENCING.
1. INSTALL BARRIER - TYPE A (CHAIN LINK), REFER TO DTL 1/AP501.
2. INSTALL BARRIER - TYPE B (CHAIN LINK), REFER TO DTL 2/AP501.
3. EXISTING FENCING TO REMAIN.
4. DO NOT INSTALL FENCING ACROSS EXPANSION JOINT.

REFERENCE EXISTING FENCING

H1 60"
G3 89"
G2 80"
G1 74"
F1 84"
E1 47"
D3 61"
D2 63"
D1 67"
C3 24"
C2 31"
C1 42"
B1 54"
A9 48"
A8 82"
A7 70"
A6 60"
A5 54"
A4 50"
A3 49"
A2 44"
A1 59"

MARK "H" = OPENING HEIGHT

BARRIER SCHEDULE MARK

NOTES:
1. REFER TO SHEET 2 FOR GENERAL NOTES.
2. REMOVE, STORE, AND REINSTALL SIGNAGE, AS NECESSARY, TO INSTALL FENCING.
3. EXISTING FENCING TO REMAIN.
4. DO NOT INSTALL FENCING ACROSS EXPANSION JOINT.
WORK ITEM NOTES
1. INSTALL BARRIER - TYPE A (CHAIN LINK), REFER TO DTL 1/AP501.
2. INSTALL BARRIER - TYPE B (CHAIN LINK), REFER TO DTL 2/AP501.

SHEET NOTES
1. REFER TO G002 FOR GENERAL NOTES.
2. REMOVE, STORE, AND REINSTALL SIGNAGE, AS NECESSARY, TO INSTALL FENCING.
3. EXISTING FENCING TO REMAIN.
4. DO NOT INSTALL FENCING ACROSS EXPANSION JOINT.

MARK "H" = OPENING HEIGHT

REFER TO SHEET NOTE 3.

REFER TO SHEET NOTE 4.
1. SCAN AND LOCATE REINFORCEMENT IN CONCRETE WALL PRIOR TO DRILLING FOR ANCHOR INSTALLATION.

2. HOT-DIP GALANIZE AND POWDER COAT ASSEMBLY.

NOTES:
1. CABLE STABILIZER ROD INSTALLED BETWEEN ANCHORAGE POINTS - LENGTH OF ROD VARIES.
2. CABLE FITTINGS SHALL NOT DAMAGE CABLES.
3. CABLE STABILIZER ROD INSTALLED BETWEEN ANCHORAGE POINTS - LENGTH OF ROD VARIES.
4. CABLE FITTINGS SHALL NOT DAMAGE CABLES.
5. INSTALL ANCHORS FLUSH WITH PLATE.

1. VINYL COATING AND POWDER COATING SHALL BE BLACK.
2. 3/4" DIA. SS THREADED ROD, WASHER & NUT ASSEMBLY WITH HILTI HY200 EPOXY - MINIMUM 4" EMBEDMENT DEPTH.
3. INSTALL ANCHORS FLUSH WITH PLATE.
4. C1 UTILIZED AT GRIDLINES E3 & E6 (FOURTH & WASHING).
EXISTING PCC COLUMN, TYP.
EXISTING PCC SPANDREL (ABOVE), TYP.
EXISTING PCC SPANDREL, TYP.
EXISTING PAINTED METAL RAILING, TYP.
NEW 3/8" DIA. S.S. BARRIER CABLES, TYP.
NEW ANGLE, REFER TO 7/AP501
S.S. BARRIER CABLE ANCHOR, TYP.
TOP OF WASH, CURB OR SLAB, TYP.
NEW CHANNEL, REFER TO 8/AP501

NOTES:
1. VINYL COATING AND POWDER COATING SHALL BE BLACK.
2. EXISTING GAURDRAIL TO REMAIN.
3. EXISTING CONCRETE COLUMN (BEYOND), TYP.
EXISTING CONCRETE WALL W/ CAPSTONE, TYP.
EXISTING GALV. GAURDRAIL, TYP.
TOP OF WASH, CURB OR SLAB, TYP.
GALV. VINYL COATED CHAIN LINK FABRIC 2" DIAMOND MESH, 9 GAUGE
FABRIC TIE, 9 GAUGE STEEL, TYP.
2 3/8" OD HD GALV. POWDER COATED LINE & END POST W/ FITTINGS, TYP.
1 5/8" OD GALV. VINYL COATED TOP & BOTTOM RAILS W/ FITTINGS, TYP.
TENSION BAR, TYP.
TENSION BAND @ 15" O.C., TYP.
MAX.
3 3/4" MAX.

5 AP502
5 AP502
3 3/4" MAX.
5 AP502

V.I.F. H - REFER TO SCHEDULE

PROJECT NO.
03/08/2023 BIDDING & CONSTRUCTION

Ann Arbor DDA
Ann Arbor, Michigan
Parking Structure Perimeter Barrier Enhancements

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SCALE: 3/4" = 1'-0"
EXISTING PCC COLUMN, TYP.

EXISTING GALV. GUARDRAIL, TYP.

TOP OF WASH, CURB OR SLAB, TYP.

GALV. VINYL COATED CHAIN LINK FABRIC 2" DIAMOND MESH, 9 GAUGE FABRIC TIE, 9 GAUGE STEEL, TYP.

2 3/8" OD HD GALV. POWDER COATED LINE & END POST W/ FITTINGS, TYP.

END POST ANCHOR PLATE, REFER TO DTL 5/AP501, TYP.

LINE POST ANCHOR PLATE, REFER TO DTL 4/AP501.

1 5/8" OD GALV. VINYL COATED TOP & BOTTOM RAILS W/ FITTINGS, TYP.

TENSION BAR, TYP.

TENSION BAND @ 15" O.C., TYP.

RAIL END CUP, TYP. V.I.F.

V.I.F. 8"

V.I.F. 1'-4"

NOTES:

1. VINYL COATING AND POWDER COATING SHALL BE BLACK.

2. EXISTING GUARDRAIL TO REMAIN, FENCE POSTS SHALL BE LOCATED BETWEEN GUARDRAIL SECTIONS.

EXISTING PCC COLUMN (BEYOND), TYP.

EXISTING PCC SPANDREL (ABOVE), TYP.

TOP OF WASH, CURB OR SLAB, TYP.

NEW 3/8" DIA. S.S. BARRIER CABLES, TYP.

NEW CHANNEL, REFER TO 8/AP501.

BARRIER CABLE SUPPORT/STABILIZER, REFER TO DTL 9/AP501, TYP.

NEW CHANNEL, REFER TO 8/AP501.

S.S. BARRIER CABLE ANCHOR, TYP.

NEW CHANNEL, REFER TO 8/AP501.

TOP OF EXISTING PCC SPANDREL, TYP.

BOTTOM OF EXISTING PCC SPANDREL, TYP.

NOTES:

1. POWDER COATING SHALL BE BLACK.

2. EXISTING BARRIER STRAND AND FENCING TO REMAIN.

V.I.F. 1'-4"

H - REFER TO SCHEDULE.

3 3/4" MAX.

7'-6" ±

PROJECT NO.

Drawn By

Designer

Reviewer

Manager

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Rev. C

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Ann Arbor, Michigan Parking Structure Perimeter Barrier Enhancements

03/08/2023 BIDDING & CONSTRUCTION

SCALE: 3/4" = 1'-0"

BARRIER ELEVATION DETAIL - TYPE F (CHAIN LINK) - FOREST

SHEET NO.

1

BARRIER ELEVATION DETAIL - TYPE E (SS CABLE) - FOREST

2

FENCING SECTION - FOREST

3

FENCING SECTION - FOREST

4
EXISTING TUBE STEEL COLUMN, TYP.
EXISTING STRUCTURAL TUBE
STEEL BARRIER TOP OF WASH, CURB OR SLAB, TYP.
REMOVE PARKING METER MOUNTING POST TO INSTALL FENCING, TYP.
STRUCTURAL FRAMING, TYP.
CONCRETE WALL, TYP.
GALV. VINYL COATED CHAIN LINK FABRIC 2" DIAMOND MESH, 9 GAUGE
FABRIC TIE, 9 GAUGE STEEL, TYP.
2 3/8" OD HD GALV. POWDER COATED LINE & END POST W/ FITTINGS, TYP.
RAIL END CUP, TYP.
LINE POST ANCHOR PLATE, REFER TO DTL 4/AP501, TYP.
1 5/8" OD GALV. VINYL COATED TOP & BOTTOM RAILS W/ FITTINGS, TYP.
TENSION BAND @ 15" O.C., TYP.
MAX. 3 3/4"
DROP DOWN SECTIONS AT COLUMNS & OBSTRUCTIONS, TYP.
EXISTING TUBE STEEL SUPPORT BEHIND NEW FENCING.

NOTES:
1. VINYL COATING AND POWDER COATING SHALL BE BLACK.
2. EXISTING GUARDRAIL TO REMAIN. REMOVE PARKING METER MOUNTING POSTS PRIOR TO INSTALLING FENCE.

V.I.F. H - REFER TO SCHEDULE
10'-0" MAX. EQ 10'-0" MAX.
54" TO 75" (VARIES).

EXISTING CONCRETE COLUMN, TYP.
EXISTING CONCRETE WALL W/ BRICK CAP, TYP.
EXISTING PAINTED METAL GUARDRAIL, TYP.
TOP OF WASH, CURB OR SLAB, TYP.
GALV. VINYL COATED CHAIN LINK FABRIC 2" DIAMOND MESH, 9 GAUGE
FABRIC TIE, 9 GAUGE STEEL, TYP.
2 3/8" OD HD GALV. POWDER COATED LINE & END POST W/ FITTINGS, TYP.
RAIL END CUP, TYP.
LINE POST ANCHOR PLATE, REFER TO DTL 5/AP501, TYP.
1 5/8" OD GALV. VINYL COATED TOP & BOTTOM RAILS W/ FITTINGS, TYP.
TENSION BAND @ 15" O.C., TYP.
MAX. 3 3/4"
EXISTING RAILING SUPPORT, TYP.

4. FENCING SECTION - LIBERTY SQUARE
3. BARRIER ELEVATION DETAIL - TYPE G (CHAIN LINK) - LIBERTY SQUARE
2. FENCING SECTION - 4TH & WILLIAM
1. BARRIER ELEVATION DETAIL - TYPE H (CHAIN LINK) - 4TH & WILLIAM
EXISTING CONCRETE/MASONRY WALL

TOP OF EXISTING CONCRETE SPANDREL/WALL, TYP.

GALV. VINYL COATED CHAIN LINK FABRIC 2" DIAMOND MESH, 9 GAUGE

1 5/8" OD HD GALV. POWDER COATED PIPE FRAME W/ FITTINGS, TYP.

TENSION BAR, TYP.

TENSION BAND @ 15" O.C., TYP.

BOTTOM OF EXISTING CONCRETE WALL/BEAM BAND W/ FASTENERS TO PREVENT ROTATION OF PANEL @ 15" O.C., TYP.

NOTES:
1. VINYL COATING AND POWDER COATING SHALL BE BLACK.

PROJECT NO. 211744

Drawn By

Designer

Reviewer

Manager

Ann Arbor DDA
Ann Arbor, Michigan

Parking Structure Perimeter Barrier Enhancements

03/08/2023 BIDDING & CONSTRUCTION

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AP505

SCALE: 3/4" = 1'-0"