



Hadi and Structures

Structural Engineering

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STRUCTURAL DRAWINGS

Paravel Apartments Prairie Grass Sculpture

Eden Prairie , Minnesota

Artist : Remo Campopiano – Lisa Roy

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| Structural Drawings | S1 through S7 |

July 5 , 2023

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

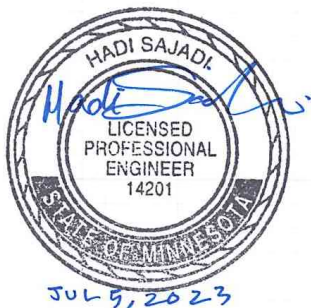
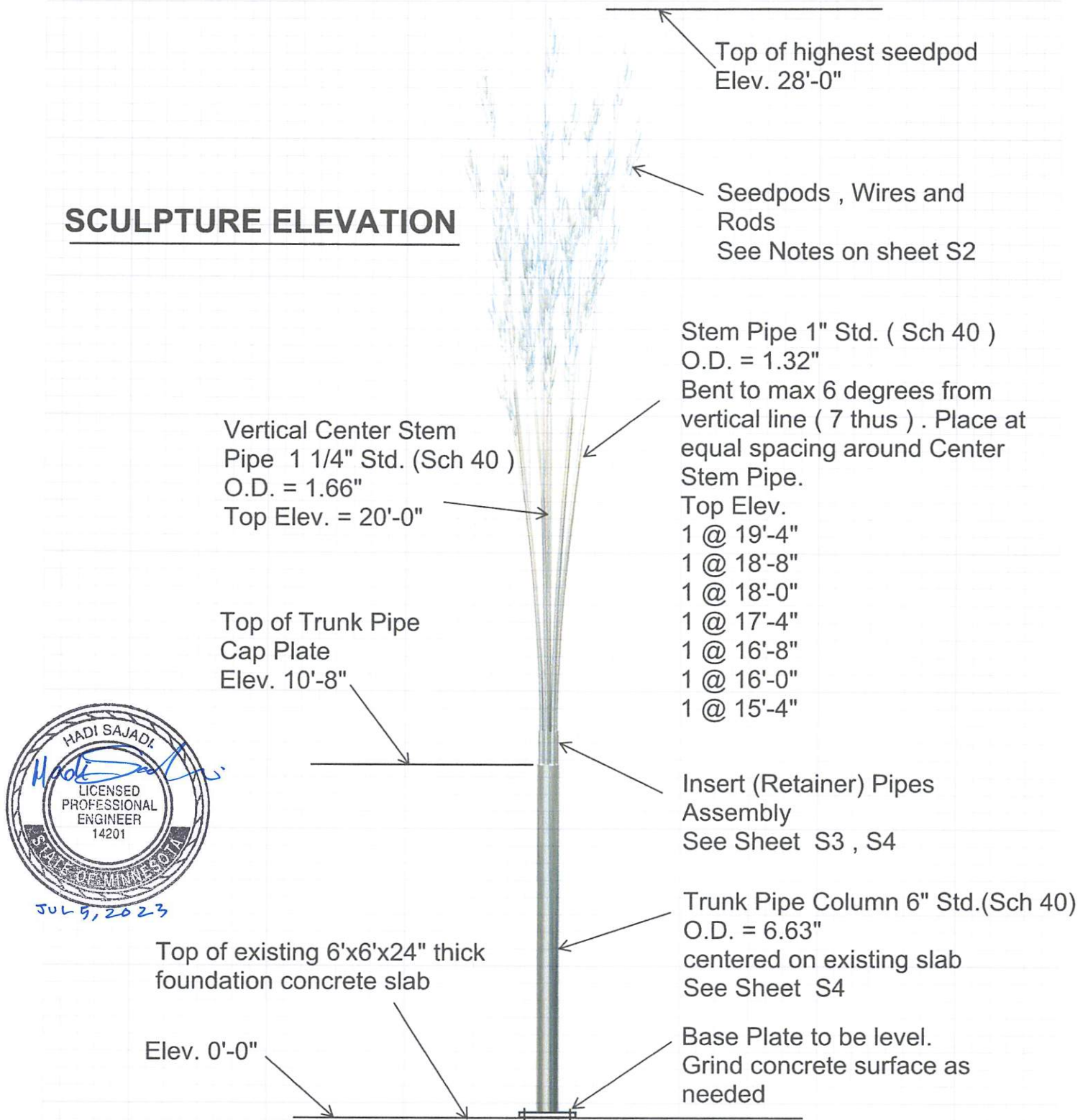
Signature : Hadi Sajadi Name: Hadi Sajadi

Date : JUL 5, 2023

Reg. No. : 14201

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| DATE JUL 5, 2023 | PARAVEL APARTMENTS PRAIRIE GRASS SCULPTURE |
| BY H.S. | 8300 COMMONWEALTH DR. |
| SHEET NO. S1 | EDEN PRAIRIE, MINNESOTA |

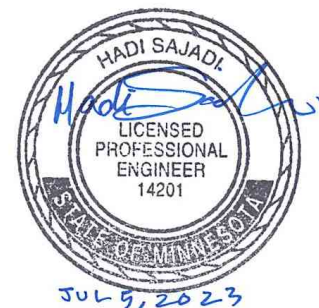
SCULPTURE ELEVATION



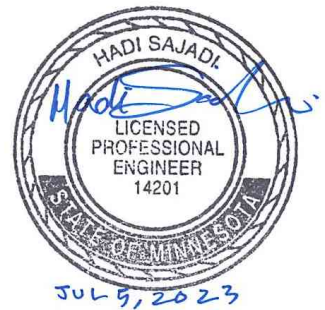
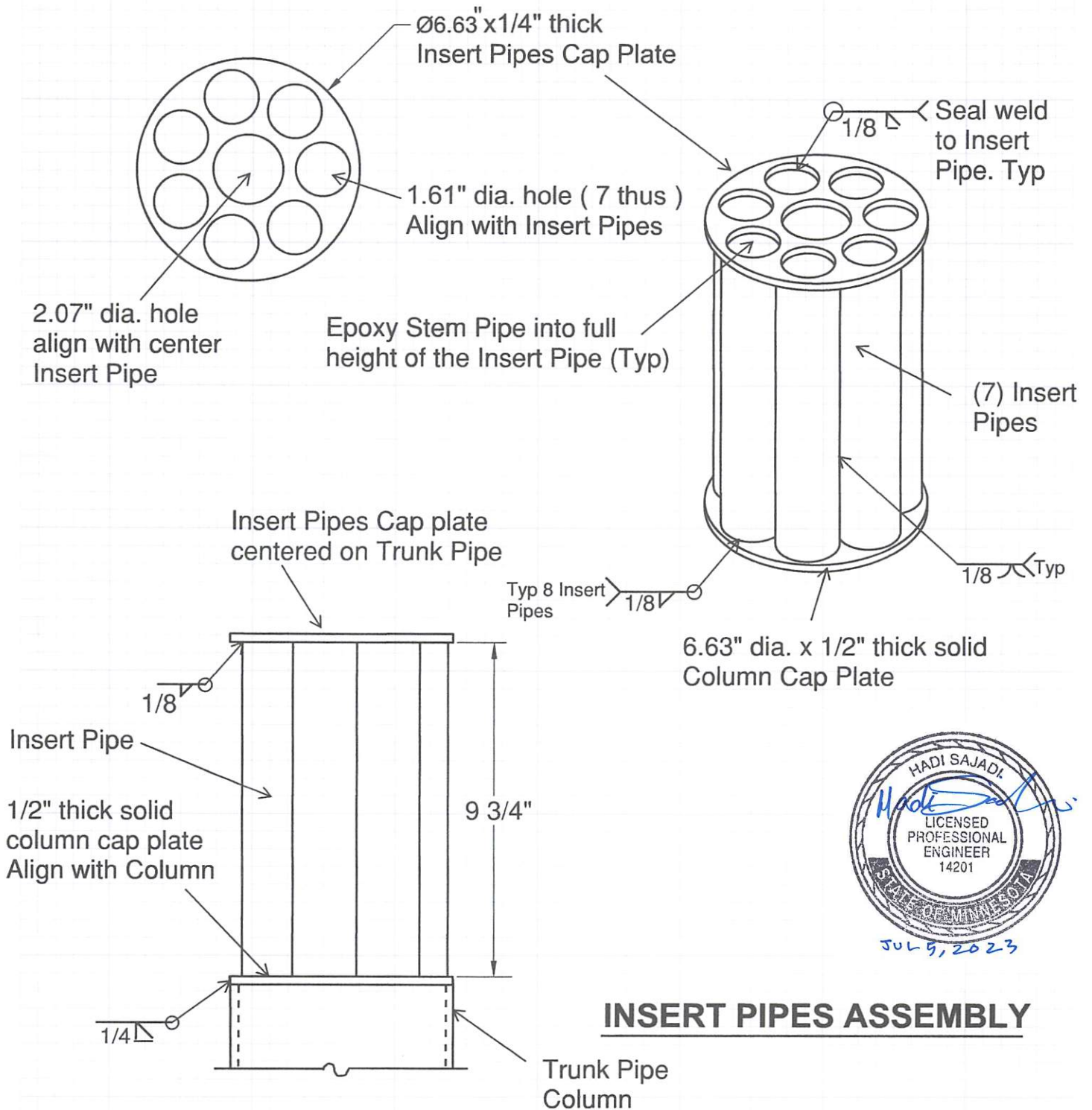
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| SHEET NO. S2 | EDEN PRAIRIE, MINNESOTA |

NOTES FOR SHEET S1

1. Plug , Collar (Sheath) and Seedpod are made of ASA material (Acrylonitrile Styrene Acrylate)
2. Insert ASA Plug into top of the Stem Pipe. Fasten Stem Pipe to the Plug with two 3/16" X 1/2" long stainless steel screws at opposite side of each other .
3. Insert and epoxy steel rods min. of 4" into ASA Plug .
4. Insert and epoxy steel rods min. of 6" into ASA Collar.
5. Number and Size of the Stainless Steel rods :
 - a. Center 1 1/4" Stem Pipe
 - One 3/8" dia. Rod x 74" long
 - One 5/16" dia. Rod x 57" long
 - One 5/16" dia. Rod x 54" long
 - One 5/16" dia. Rod x 46" long
 - One 1/4" dia. Rod x 38" long
 - One 1/4" dia. Rod x 36" long
 - One 1/4" dia. Rod x 30" long
 - b. Perimeter 1" Stem Pipes
 - One 5/16" dia. Rod x 57" long
 - One 5/16" dia. Rod x 52" long
 - One 1/4" dia. Rod x 38" long
 - One 1/4" dia. Rod x 36" long
 - One 1/4" dia. Rod x 30" long
 - One 1/4" dia. Rod x 24" long
6. The length of rod indicated above includes 4" and 6" penetration into Plug and Collar, respectively.
7. Insert and epoxy 3/32" dia stainless steel wire 5 1/2" into the 6 1/2" long ASA Seedpod.
8. Insert and epoxy 3/32" dia stainless steel wire 1" into the ASA Collar.
9. Max length of wire = 14 1/2" (Max exposed length=8")
10. Total of 9 Seedpods per Collar .
11. See Artist drawings for details.



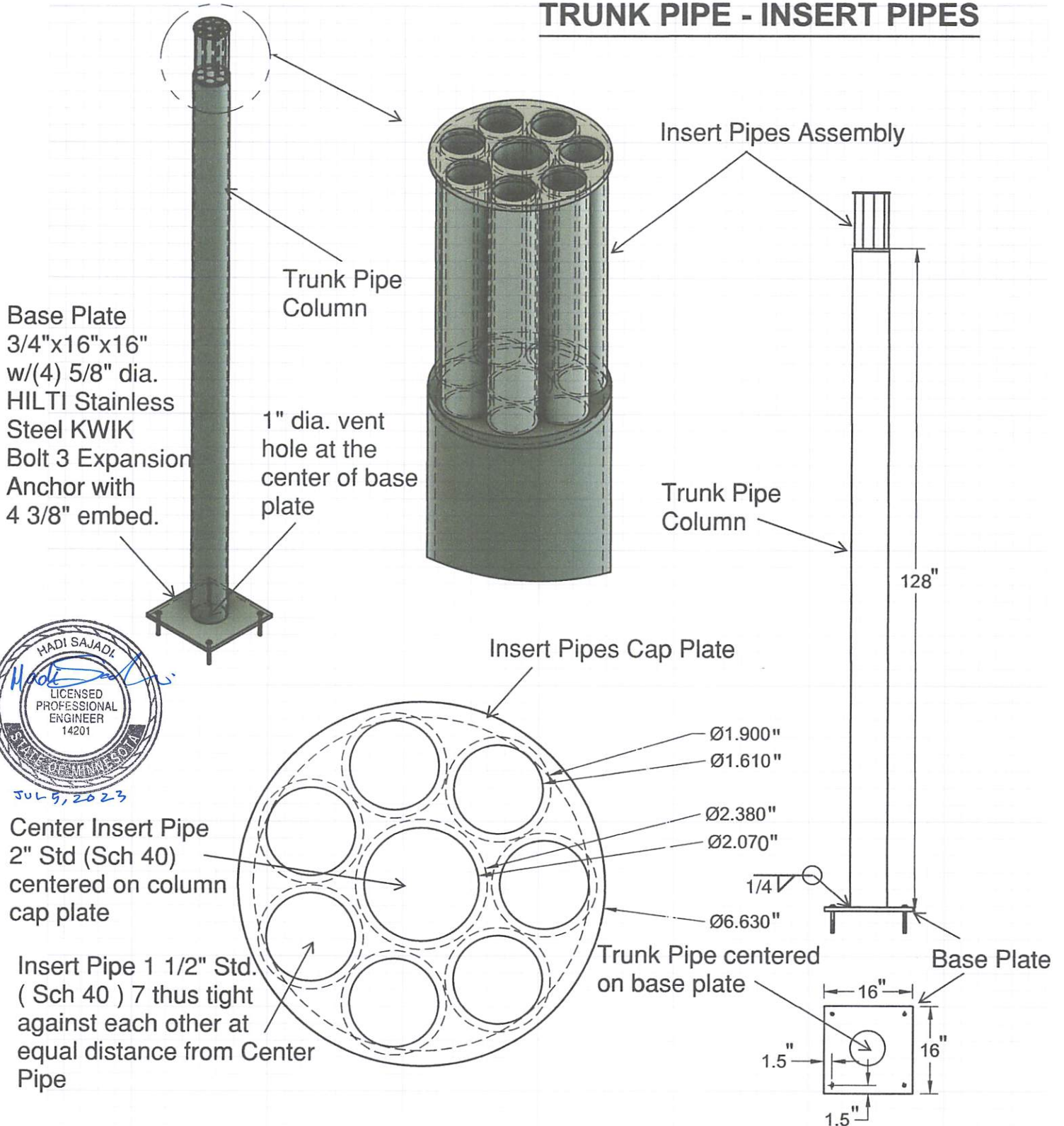
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| DATE JUL 5, 2023 | PARAVEL APARTMENTS PRAIRIE GRASS SCULPTURE |
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| SHEET NO. S3 | EDEN PRAIRIE, MINNESOTA |



INSERT PIPES ASSEMBLY

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| DATE JUL 5, 2023 | PARAVEL APARTMENTS PRAIRIE GRASS SCULPTURE |
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| SHEET NO. S4 | EDEN PRAIRIE, MINNESOTA |

TRUNK PIPE - INSERT PIPES




HADI SAJADI
LICENSED PROFESSIONAL ENGINEER
14201
JUL 9, 2023

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|-------------------|--|
| DATE JUL 5 , 2023 | PARAVEL APARTMENTS PRAIRIE GRASS SCULPTURE |
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| SHEET NO. S5 | EDEN PRAIRIE, MINNESOTA |

GENERAL NOTES:

1. Contractor shall verify all existing dimensions, member sizes and field conditions prior to any fabrication, construction or installation and notify Structural Engineer if conditions, materials, sizes and dimensions are different from those shown.
2. Cross reference all dimensions and details with the Artist's drawings before commencing any demolition/fabrication/construction.
3. These drawings and specifications represent the finished structure. Unless otherwise noted, they do not indicate the means or methods of construction. The Contractor is solely responsible for the protection of the existing building/site and new structure during all phases of demolition/construction/installation. Provide temporary shoring as required to protect the structure, workmen and other persons. Shoring design is by the Contractor.
4. All construction shall comply with the current edition of State of Minnesota Building Code.
5. Details and conditions not specifically shown shall be constructed in accordance with details shown for similar conditions and materials.
6. Shop drawings prepared by suppliers, subcontractors or others shall be reviewed, coordinated and signed/stamped by General Contractor prior to submittal to the Structural Engineer.
7. Do not scale the drawings
8. Reference Codes, Documents, Standards and Manuals shall be the latest edition (unless noted otherwise) with the latest addenda if applicable.

FOUNDATION

9. The existing Concrete slab is assumed to have a minimum compressive strength of 4000 psi.

STEEL

10. Construction of structural steel shall comply with all the requirements of the latest edition of the "Manual of Steel Construction" by American Institute of Steel Construction.
11. Steel pipe sections shall be ASTM A53, Grade B (Fy= 35000 psi)
12. Stainless Steel wire and rod shall be ASTM A276 (AISI 304) (min Fy=30,000 psi)
13. All other steel shall be ASTM A36 (Fy=36,000 psi)
14. Welding of steel shall be as per latest specifications of the American Welding Society. All welds are all around or full length (unless noted otherwise). Use E70xx electrodes.
15. All steel parts (except stainless steel wires and rods) shall be hot dipped Galvanized as per ASTM A123 (G90 coating). For field welding, grind and remove the zinc coating prior to any welding. Clean all field cuts, drilled holes and welds and



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| SHEET NO. S6 | EDEN PRAIRIE, MINNESOTA |

GENERAL NOTES (continued)

touch up with cold galvanizing paint. Use "Zinc Clad Cold Galvanizing" by Sherwin-Williams or "Cold Galvanizing Compound" by ZRC Worldwide. Brush or spray to provide a minimum dry film thickness of 3 mils.

16. Expansion Anchors shall be "Hilti KWIK Bolt 3" manufactured by Hilti Corporation . Install anchors in strict conformance with manufacturer's written instructions.
17. The column (Trunk Pipe) Base Plate (top and bottom) and the bottom 8" of column shall be coated with cold applied asphalt emulsion (ASTM D1187).
Approved products : MasterSeal 610 by Master Builders
18. Epoxy adhesive shall be Simpson SET-XP . Install epoxy in strict conformance with manufacturer's written instructions.

ASA (Acrylonitrile Styrene Acrylate)

19. ASA material shall have the following minimum properties :
Flexural Yield Stress = 2500 psi
Flexural Strength = 5600 psi
Modulus of Elasticity = 259,000 psi
Density = 66.2 lbs/cu. ft.

DESIGN CRITERIA AND LOADS :

1. CODES and REFERENCES
2020 Minnesota Building Code
Minimum Design Loads and Associated Criteria for Buildings and Other Structures , ASCE 7-16
2. WIND LOAD
Basic Design Wind Speed = 109 mph
Exposure Category "B"
Risk Category II
3. SNOW/ICE LOAD
Ground Snow Load , $P_g = 50$ lbs/sq. ft.
 $C_e = 1.0$
 $C_t = 1.2$
 $I_s = 1.0$
Nominal Ice Thickness = 1.5"
Concurrent Wind Speed $V_c = 50$ mph
Importance Factor $I_i = 1.0$



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ABBREVIATIONS:

| | |
|--------|--|
| @ | At |
| & | And |
| # | Number , Pound |
| Ø | Diameter |
| AISC | American Institute of Steel Construction |
| ASTM | American Society for Testing and Materials |
| AWS | American Welding Society |
| APPROX | Approximate |
| DIA | Diameter |
| EA | Each |
| EQ | Equal |
| ELEV | Elevation |
| EMBED | Embedment |
| EXIST | Existing |
| GALV | Galvanized |
| LBS | Pounds |
| MAX | Maximum |
| MIN | Minimum |
| MISC | Miscellaneous |
| MPH | Miles per hour |
| OD | Outside Diameter |
| PL | Plate |
| PSI | Pound per square inch |
| SCH | Schedule |
| SIM | Similar |
| SQ.FT | Square Feet |
| STD | Standard |
| TYP | Typical |
| UNO | Unless noted otherwise |
| VER | Verify |
| VERT | Vertical |
| W/ | With |
| W/O | Without |

