REMINDER #1: Bidders are informed that each addendum must be acknowledged on the **outside** of the envelope containing your bid. If all addenda are not acknowledged on the outside of the envelope, your bid will not be opened.

REMINDER #2: To receive an award, a Contractor must be on the City of Joliet's List of Pre-qualified Contractors by submitting one's IDOT or CDB qualifications to the City Clerk's office or filling out City of Joliet forms, which are available at http://www.cityofJoliet.info/index.aspx?page=97 **This documentation must be submitted prior to the bid opening date and time.**

ADDENDUM NO. 2
TO THE
BIDDING DOCUMENTS
FOR
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
FOR THE
CITY OF JOLIET, ILLINOIS

CITY CONTRACT NO. 2351-0219
IEPA LOAN NO. L174760

DATE: January 10, 2019

BID CLOSING DATE & TIME: 2:00 PM local time, January 24, 2019

TO ALL BIDDERS BIDDING ON THE ABOVE PROJECT:

All Bidders submitting a Bid on the above Contract shall carefully read this Addendum and give it consideration in the preparation of their Bid.

I. Clarifications

A. The 660 days to substantial completion in Section 00 52 33 – 4.02.A is correct. The 600 days to substantial completion in the Pre Con Agenda was a typo and should have been 660 days.

B. The structural details in 999 sheets are not necessarily in numerical order.

II. The following are revisions to the Specifications:

A. Page 07 71 33-1, delete Paragraphs 2.02.A and 2.02.B in their entirety and replace with the following:

A. Gutters: Rectangular approximately 6 inch high x 5 inches wide, minimum 30 square inch cross section, minimum 0.040 thickness, Style F profile, shop fabricated.

B. Downspouts: Rectangular; approximately 4 inches x 5 inches, minimum 20 square inch cross section, minimum 0.025 in. thickness, open-face type, shop fabricated.

B. Page 07 71 33-2, delete Paragraph 2.03.D.1 in its entirety and replace with the following:

1. Material: 0.025 in. aluminum.

C. Page 08 71 00-4, add the following Paragraph 2.01.Q:

Q. Clothes Hook x stainless steel

1. B-2116 Bobrick

D. Page 08 71 00-5, add the following to Paragraph 3.03.C:

1 – Clothes Hook (Provide 2 Clothes Hooks at Door 120-D05)

E. Page 08 71 00-6, add the following to Paragraph 3.03.G:

1 – Clothes Hook (Door 900-D22)

F. Page 10 14 00-2, delete Paragraph 2.02.A.1 in its entirety and replace with the following:

1. Locations:

   a. Building 120: Door No. D02, D03, D04 D08, D09, D13 and D15.
   b. Building 900: Door No. D03, D04, D05, D07, D08, D10, D11, D12, D13, D16, D21, D24, D26, D29 and D34.

G. Page 10 28 13-1, add the following after Paragraph 1.01.A.13:

14. Sanitary napkin disposal units.

H. Page 10 28 13-3, delete Paragraph 2.08.B in its entirety and replace with the following:

B. Anti-Bacterial Shower Curtain: 42 in. wide by 72 in. high, 10 oz. nylon-reinforced anti-bacterial vinyl fabric with hemmed edges. Fabric to be flameproof, stain resistant and self-deodorizing with stainless steel grommets on 6-in. centers through top hem. Furnish in opaque white matte color.

I. Page 10 28 13-5, renumber Paragraph 3.02 - Schedule of Toilet Accessories to 3.04 Schedule of Toilet Accessories.

J. Page 10 28 13-5, delete Paragraph 3.04.A.3.i in its entirety and replace with the following:

i. 1 – Sanitary Napkin Disposal Unit.

K. Page 10 28 13-6, delete Paragraph 3.03.A.4.d in its entirety and replace with the following:

d. 2 – Shower Curtains, Rods and Hooks.

L. Page 10 28 13-6, delete Paragraph 3.03.A.6.d in its entirety and replace with the following:

d. 2 –Shower Curtains, rod and Hooks.

M. Page 10 28 13-6, delete Paragraph 3.03.A.7.g in its entirety and replace with the following:

g. 1 – Sanitary Napkin Disposal Unit.

N. Page 10 28 13-7, delete Paragraph 3.02.B.3.f in its entirety and replace with the following:

f. 1 – Sanitary Napkin Disposal Unit.

O. Page 12 49 40-3, delete Paragraph 2.02.B.1.b in its entirety.

P. Page 12 49 40-3, add the following Paragraph 2.02.C:

C. Shade Designation: Solar Control (Break Room 105).

1. Location and operation (Administration Building 900)

    a. Clearstory, Break Room 105 (Electric Operated).
    b. Break Room 105 north and west windows (manual)

2. Manufacturer's Name: Hunter Douglas or equal.

    a. Product Name: E Screen 7510 (10%)
    b. Color: As selected by Owner.

3. Mounting: Wall.
4. Direction of roll: Reverse.
5. Operation: Top-down operation. Manual or motor with wall switch as noted.

    a. Static operating mode to stop and hold shade at any position.

6. Fascia: To match shade material.
7. Shade pulls: Chain.

Q. Page 22 00 05-26, add the following sentence to subparagraph 3.04.B.:

"The Local Water Utility will perform the tap of the main."

R. Page 23 09 23-8, delete Paragraph 2.01.A.2 in its entirety and replace with the following:

2. No Substitutions Permitted.

S. Add Section 31 31 19 – Vegetation Control attached to this addendum.

T. Page 32 12 16-1, delete Paragraph 1.04.C. in its entirety.

U. Page 32 12 16-3, delete Paragraph 2.02.A in its entirety and replace with the following:

A. Parking striping and pavement markings shall be thermoplastic pavement markings complying with Section 1095.01 of the IDOT Standard Specifications. Pavement markings and striping shall be white or yellow as approved by the Owner. Reflective glass beads are not required.

V. Replace Section 32 92 19 in its entirety with attached 32 92 19.

W. Replace Section 32 93 00 in its entirety with attached 32 93 00.

X. Page 33 11 16-3, delete Paragraph 2.05.A in its entirety and replace with the following:

A. Polyethylene encasement ("Polywrap") shall conform to AWWA Standard C105. Encasement shall be three layers of co-extruded linear low-density polyethylene (LLDPE) film fused into one. The inside surface shall be infused with a blend of anti-microbial additive to mitigate microbiologically influenced corrosion and a volatile corrosion inhibitor (VCI) to control galvanic corrosion. The polyethylene film supplied shall be distinctly marked (at minimum 2 foot intervals) with the following information or equivalent:

1. manufacturer's name (or trademark),
2. year manufactured,
3. minimum film thickness and material type (LLDPE),
4. range of nominal pipe diameter size
5. ANSI/AWWA C105/A21.5 (compliance)
6. A warning "WARNING–CORROSION PROTECTION-REPAIR ANY DAMAGE"
7. labeled "WATER"

Y. Page 33 11 16-3, delete sentence 2.05.D.1 in its entirety and replace with the following:

"1. V-Bio Enhanced Polyethylene Encasement by American Pipe".

Z. Replace Section 33 31 13 in its entirety with attached 33 31 13.

AA. Page 33 39 00-2, add the following to paragraph 2.01.A.4:

b. For manholes in paved areas, provide one rubber composite adjustment ring.

i. EJ Infra-Riser
ii. Or equal.

BB. Page 33 39 00-3, delete 2.01.B.5.

III. The following are revisions to the Drawings:

A. Sheet 15 (Drawing 002-CE-1): Delete Structure 195 name "Effluent Pump Station" and replace with "W3 Pump Station".

B. Sheet 20 (Drawing 002-CR-5): Revised removal limits at Structure 600. Replace entire sheet with Sheet 20 attached to this Addendum.

C. Sheet 21 (Drawing 002-CR-6): Revised annotation. Replace entire sheet with Sheet 21 attached to this Addendum.

D. Sheet 22 (Drawing 002-CR-7): Revised General Note 2, revised hatching scales, revised matchline, and adjusted cut off or overlapping leaders. Replace entire sheet with Sheet 22 attached to this Addendum.

E. Sheet 23 (Drawing 002-CR-8): Revised General Note 2, revised hatching scales, revised matchline, and added Plan Note 5. Replace entire sheet with Sheet 23 attached to this Addendum.

F. Sheet 25 (Drawing 002-CR-10): Added Plan Notes 9 and 10. Revised legend. Replace entire sheet with Sheet 25 attached to this Addendum.

G. Sheet 26 (Drawing 002-CF-1): Delete Structure 195 name "Effluent Pump Station" and replace with "W3 Pump Station".

H. Sheet 27 (Drawing 002-CF-2): Revised asphalt pavement rejuvenation limits. Replace entire sheet with Sheet 27 attached to this Addendum.

I. Sheet 28 (Drawing 002-CF-3): Revised Structure 195 name from "Effluent Pump Station" to "W3 Pump Station", revised sheet references. Replace entire sheet with Sheet 28 attached to this Addendum.

J. Sheet 29 (Drawing 002-CF-4): Revised layout and grading information. Replace entire sheet with Sheet 29 attached to this Addendum.

K. Sheet 30 (Drawing 002-CF-5): Revised layout and grading information. Replace entire sheet with Sheet 30 attached to this Addendum.

L. Sheet 31 (Drawing 002-CF-6): Revised layout and grading information. Replace entire sheet with Sheet 31 attached to this Addendum.

M. Sheet 32 (Drawing 002-CF-7): Revised layout and grading information. Replace entire sheet with Sheet 32 attached to this Addendum.

N. Sheet 32A (Drawing 002-CF-7A): Add Sheet 32A attached to this Addendum for layout and grading outside of Structure 125.

O. Sheet 33 (Drawing 002-CF-8): Revised layout and grading information. Replace entire sheet with Sheet 33 attached to this Addendum.

P. Sheet 34 (Drawing 002-CF-9): Additional grading information. Replace entire sheet with Sheet 34 attached to this Addendum.

Q. Sheet 35 (Drawing 002-CF-10): Revised layout information and moved grading information to Sheet 50B (Drawing 002-CG-6). Replace entire sheet with Sheet 35 attached to this Addendum.

R. Sheet 36 (Drawing 002-CF-11): Revised layout information and moved grading information to Sheet 50C (Drawing 002-CG-7). Replace entire sheet with Sheet 36 attached to this Addendum.

S. Sheet 37 (Drawing 002-CF-12): Revised annotation. Replace entire sheet with Sheet 37 attached to this Addendum.

T. Sheet 38 (Drawing 002-CF-13): Revised annotation. Replace entire sheet with Sheet 38 attached to this Addendum.

U. Sheet 39 (Drawing 002-CF-14): Additional layout and grading information. Revised plan notes. Replace entire sheet with Sheet 39 attached to this Addendum.

V. Sheet 41 (Drawing 002-CP-2): Deleted rim elevations from Alum Manhole labels. Replace entire sheet with Sheet 41 attached to this Addendum.

W. Sheet 42 (Drawing 002-CP-3): Revised manhole numbering. Replace entire sheet with Sheet 42 attached to this Addendum.

X. Sheet 43 (Drawing 002-CP-4): Deleted rim elevations from Alum Manhole labels. Replace entire sheet with Sheet 43 attached to this Addendum.

Y. Sheet 44 (Drawing 002-CP-5): Added Plan Note 4 callout. Replace entire sheet with Sheet 44 attached to this Addendum.

Z. Sheet 45 (Drawing 002-CP-6): Revised Plan Note 2 callout. Replace entire sheet with Sheet 45 attached to this Addendum.

AA. Sheet 46 (Drawing 002-CP-7): Revised sanitary sewer information. Added detention pond outfall pipe. Replace entire sheet with Sheet 46 attached to this Addendum.

BB. Sheet 47 (Drawing 002-CG-1): Replace entire sheet with Sheet 47 attached to this Addendum.

CC. Sheet 48 (Drawing 002-CG-2): Replace entire sheet with Sheet 48 attached to this Addendum.

DD. Sheet 49 (Drawing 002-CG-3): Replace entire sheet with Sheet 49 attached to this Addendum.

EE. Sheet 50 (Drawing 002-CG-4): Replace entire sheet with Sheet 50 attached to this Addendum

FF. Sheet 50A (Drawing 002-CG-5): Add Sheet 50A attached to this Addendum.

GG. Sheet 50B (Drawing 002-CG-6): Add Sheet 50B attached to this Addendum.

HH. Sheet 50C (Drawing 002-CG-7): Add Sheet 50C attached to this Addendum.

II. Sheet 54 (Drawing 002-CL-2): North-East raingarden and patio planters revised. Replace entire sheet with Sheet 54 attached to this Addendum.

JJ. Sheet 55 (Drawing 002-CL-3): North-East raingarden and patio planters revised. Replace entire sheet with Sheet 55 attached to this Addendum.

KK. Sheet 56 (Drawing 002-CL-4): Patio planters, notes and hatch revised. Replace entire sheet with Sheet 56 attached to this Addendum.

LL. Sheet 57 (Drawing 002-CL-5): North-East raingarden and patio planters revised. Replace entire sheet with Sheet 57 attached to this Addendum.

MM. Sheet 58 (Drawing 002-CL-6): North-East raingarden and patio planters revised. Replace entire sheet with Sheet 58 attached to this Addendum.

NN. Sheet 59 (Drawing 002-CL-7): Rain garden(plugs) quantity adjusted. Replace entire sheet with Sheet 59 attached to this Addendum.

OO. Sheet 105 (Drawing 120-AS-2): Revised shelf and coat hook at Room 115. Replace entire sheet with Sheet 105 attached to this Addendum.

PP. Sheet 280 (Drawing 900-AS-18): Added room name and room number to Section D. Replace entire sheet with Sheet 280 attached to this Addendum.

QQ. Sheet 302 (Drawing 900-H-3): Add General Note, “4. PAINT ALL EXPOSED SUPPLY DUCTWORK LOCATED IN THE BREAK ROOM [105] AND STORAGE A [106] IN COLOR SELECTED BY OWNER AND ENGINEER”.

RR. Sheet 323 (Drawing 999-C-3): Replace entire sheet with Sheet 323 attached to this Addendum.

SS. Sheet 324 (Drawing 999-C-4): Replace entire sheet with Sheet 324 attached to this Addendum.

TT. Sheet 325 (Drawing 999-C-5): Replace entire sheet with Sheet 325 attached to this Addendum.

UU. Sheet 326 (Drawing 999-C-6): Replace entire sheet with Sheet 326 attached to this Addendum.

VV. Sheet 327 (Drawing 999-C-7): Replace entire sheet with Sheet 327 attached to this Addendum.

WW. Sheet 330 (Drawing 999-C-10): Replace entire sheet with Sheet 330 attached to this Addendum.

XX. Sheet 333 (Drawing 999-CL-3): Change in detention area section to accommodate perforated pipe. Pipe removed from raingarden section. Replace entire sheet with Sheet 333 attached to this Addendum.

YY. Sheet 334 (Drawing 999-A-1): Revised notes and added notes in Remarks column in Room Finish Schedule. Replace entire sheet with Sheet 334 attached to this Addendum.

ZZ. Sheet 340 (Drawing 999-A-7): Revised notes and Canopy Front Elevation. Replace entire sheet with Sheet 340 attached to this Addendum.

AAA. Sheet 343 (Drawing 999-A-10): Revised Closet Shelf Detail A911. Replace entire sheet with Sheet 343 attached to this Addendum.

IV. Any revisions to any of the Contract Documents made by this Addendum shall be considered as the same revision to any and all related areas of the Contract Documents not specifically called out in this Addendum.

V. The Bidder shall acknowledge receipt of this Addendum by inserting the date and number in the spaces provided in the BID FORM.

DONOHUE & ASSOCIATES, INC.

Eric P. Cockerill, P.E

END OF ADDENDUM #2

SECTION 31 31 19
VEGETATION CONTROL

Revised Addendum **No. 2** 01/04/2019

PART 1 – GENERAL

1.1 SUMMARY

A. Section includes application of herbicides to control weeds and encourage desirable vegetation.

B. Related Documents:
   1. Applicable provisions of Volume 1 shall govern work of this specification section.

C. Related Sections:
   1. Applicable provisions of Division 01 – General Requirements shall govern work of this specification section.
   2. Section 32 92 19 – Seeding.
   3. Section 32 93 00 – Planting and Fine Grading.
   4. In the event of a conflict between this section and any of the General Specifications, this section shall prevail.

1.2 DEFINITIONS

A. Herbicide – chemical compound used to kill weeds, including root system.

B. Weeds: Ecologically objectionable and undesirable species of vegetation in a given area.
   1. Any species identified by the Northeastern Illinois Invasive Plant Partnership, also known as NIIPP (http://www.niipp.net/natural-history-identification) shall be considered a weed.
   2. Low quality and/or aggressive native species shall be considered weeds if determined through consultation with the Landscape Architect.

1.3 REFERENCES

A. Environmental Protection Agency (EPA).

B. TSCA (Toxic Substances Control Act) Regulations, 40 CFR, 710.

C. Superfund Amendments and Reauthorization Act of 1986 (SARA).

D. Emergency Planning and Community Right-to-Know Act (EPCRA).

E. Plants of the Chicago Region. 1994. Swink, F. and G. Wilhelm.

1.4 SUBMITTALS

A. Section 01 33 00 – Submittal Procedures: Requirements for submittals.

B. Submit qualification data, including current licensing documentation, for firms and persons specified in the “Qualifications” Article to demonstrate their capabilities and experience.

C. Product Data: Submit the following to the Engineer for each product provided under work of this Section:
   1. Material Safety Data Sheets (MSDS).
   2. Manufacturer’s label.

D. An herbicide record shall be maintained by the Contractor and submitted at the completion of the

Work of this section. This record shall document, at the time of each herbicide application, temperature range, percent humidity, wind speed and direction, last precipitation event and amount, type of herbicide used, amount of herbicide used, number of hours spent applying herbicide, and name(s) and license numbers of all those applying herbicides.

1.5 CLOSEOUT SUBMITTALS

A. Section 01 70 00 – Execution and Closeout Requirements.

B. Submit Operation and Maintenance Data in accordance with Division 1 Requirements.

1.6 QUALITY ASSURANCE

A. Section 01 40 00 - Quality Requirements.

B. Ability to Deliver:
   1. Investigate sources of supply and confirm they can supply materials in quantity, variety, and quality noted and specified before submitting bid.
   2. Failure to take this precaution will not relieve responsibility for furnishing and applying these materials in accordance with Contract documents without additional expense to Owner.

C. Certification: Provide herbicide products that are certified to specified product parameters in accordance with the following;
   1. Registration with the Environmental Protection Agency (EPA).
   2. Exempt status in accordance with TSCA (Toxic Substances Control Act) Regulations.
   3. SARA Information and Hazard Category in accordance with Title III, EPCRA Section 313 Toxic Chemicals.

D. Provide the Engineer with written compliance of all listed documentation above.

1.7 QUALIFICATIONS

A. To demonstrate qualifications to perform Vegetation Control Work, Contractor either individually or in conjunction with its designated subcontractors must submit documentation of having satisfactorily completed (within last 5 years) Projects of similar scope and size to the Work. Construction, transportation or utility projects are not suitable projects. Project must meet the project requirements below. The contractors shall provide a minimum of three (3) references that reflect all the following conditions and experience:
   1. Selective and targeted application of herbicide via wick application within Illinois Natural Area Inventory Sites or native communities of high floristic quality (FQI 25 or higher) that were successfully completed *and* which avoided reasonable negative impact to the native vegetation that co-occurred with the target invasive plant species.
   2. Projects must be at least 10 acres of treatment within a 10-acre or larger project area.

B. All Project references shall demonstrate the contractor’s ability to initiate or accelerate the recovery of an ecosystem or natural landscape with respect to its ecological health, integrity and sustainability.

C. Experience with project management for restoration projects.

D. Reference projects shall be projects that are conducted on and are restoring or enhancing a natural landscape. This includes native communities, such as: prairies, wetlands, woodlands, savannas, forest, ravines, flatwoods, streams, fens, bogs, rivers, and lakes. Turf weed control and maintenance of planting beds shall not be considered as reference projects.

E. Submittal to include the following project information: Owner/Project Name, Owner Address, Reference Name, Ref. Phone Number, Type of Work, Contractor relationship (if Bidder was subcontractor), Amount of Contract, Project Location, Project Size, and Completion Date.

F. Submit the following Project Manager / Field Crew Leader qualifications information:

1. The Project Manager / Field Crew Leader must have a minimum of 3 years of experience in invasive vegetation control and herbicide applications in natural areas to be qualified to work on this project.

G. Submit the following Field crew qualification information:

1. At least fifty percent (50%) of the field crew at all times shall have at least two (2) years experience with: working in natural areas; plant identification (growing season identification characteristics of invasive and native species); and herbicide use.
2. All field crew members applying herbicide are required to have current State of Illinois Pesticide Operator's or Applicator's License. Contractor shall have at least one crew member with an Applicator's License to oversee Operators. Contractor must provide the Engineer with copies of all field crew members' current pesticide licenses with photo ID prior to commencement of work.

1.8 SITE CONDITIONS

A. Project Environment:
1. Work shall be performed only when weather and soil conditions are favorable for such operations.
2. No application shall be done during winds in excess of ten (10) miles per hour, during periods of precipitation, or when such conditions are forecasted without prior approval of the Engineer.
3. Operations will be suspended or delayed whenever conditions are unfavorable for such work or at request of the Engineer or Landscape Architect.

B. Contractor Equipment:
1. Equipment of a type, size, capacity or condition unsuited for obtaining first class work and expedition of the job shall be replaced with proper equipment.
2. Limits of operation shall be restricted to areas designated by the Engineer or Landscape Architect.

1.9 COORDINATION

A. Coordinate the Work with installation of, including but not limited to, grading, excavation, erosion control, pavements, utilities, soils, seeding, and planting specified under other sections as the Work of this Section proceeds.

1.10 PRE-INSTALLATION MEETINGS

A. Pre-Installation Conference: Conduct conference at Project site to comply with requirements in Division 1.

1.11 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements.

B. Herbicides shall be delivered, stored and handled in accordance with local, state and federal regulations, their label, and Material Safety Data Sheets (MSDS) for each herbicide.

1.12 WARRANTY

A. Vegetation control through herbicide application must be applied as specified and provide effective

weed control to be accepted.

B. Herbicide shall be re-applied, at the Contractor's expense, in areas failing to meet intended weed control objectives.

1.13 FINAL ACCEPTANCE

A. Inspection to determine final acceptance of weed control work will be made by the Engineer or Landscape Architect upon the Contractor's request.

B. Contractor shall provide notification to the Engineer at least ten (10) working days before requested inspection date.
   1. Work of this Section shall be accepted provided all requirements, including maintenance manual requirements, have been complied with.
   2. Areas failing to show adequate weed control shall be retreated at the Contractor's expense prior to final acceptance.

PART 2 - PRODUCTS

2.1 HERBICIDE TYPES

A. Contractor shall select herbicides that are effective against the targeted species, will not have long-term negative environmental effects, and are approved for the use and conditions in which they are to be applied.

B. Herbicides shall be selected and applied based upon the target weed species to be controlled, as well as the setting in which they are to be applied. Herbicide use shall be in compliance with label instructions at all times. The following herbicides are approved for use:
   1. Glyphosate, trade name Roundup Pro or approved equal.
   2. Glyphosate in a form approved for use over water/in wetlands, trade name Aquamaster or approved equal.
   3. Imazapyr in a form approved for use over water/in wetlands, trade name Habitat or approved equal.
   4. Clopyralid, trade name Transline or approved equal.
   5. Triclopyr in its ester form, trade name Garlon 4 or approved equal, mixed with basal oil.
   6. Triclopyr in its amine form and approved for use over water/in wetlands, trade name Garlon 3A or approved equal.

C. The use of other herbicides will be considered on a case by case basis by the Engineer.

D. The use of surfactants, drift control agents, and other additives shall be required in conformance with the herbicide labels and as conditions dictate.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 01 31 15 – Project Coordination and Meetings: Verification of conditions before starting work.

B. Woody vegetation such as shrubs and trees shall be removed in accordance with Division 31 Specifications.

3.2 PREPARATION FOR HERBICIDE APPLICATION

A. During and after each herbicide application, the area shall be posted with signs stating that herbicide has been applied in the area. Signs shall be posted prior to herbicide application and

shall remain in place for at least 24 hours after treatment. The Contractor shall supply the signs.

B. The Contractor shall adhere to the following protocol when determining whether conditions are appropriate for chemical application:
   1. Wind speeds within the label specifications at the project site.
   2. If the chance of precipitation is 40% or greater, the Contractor shall call the Engineer 24 hours in advance of the predicted weather to discuss work for the day in question.
   3. The Contractor shall not apply herbicide of the likelihood of precipitation is greater than 50% within the next 12 hours, unless otherwise approved by the Engineer.
   4. If weather conditions are questionable, the decision to proceed shall be left to the discretion of the Engineer.

C. The Engineer reserves the right to cease Contractor herbicide applications if proper precautions are not followed, or if weather conditions prohibit proper application.

3.3 GOALS / PERFORMANCE

A. The goal of this Work is to selectively control non-native and/or otherwise objectionable weeds with an approved herbicide while protecting desirable and designed species within the project area and adjacent areas.

B. The Contractor shall make the initial herbicide treatment and make a follow-up visit 14-21 days later depending upon the chemicals used. It shall be the Contractor's responsibility to schedule follow-up visits in a timely manner. The Contractor shall not rely on direction from the Engineer, Landscape Architect, or Owner. If successful weed control is not achieved after the follow-up visit, additional applications may be required.

C. Work shall be completed in a diligent, efficient, and timely manner. If at any time the Engineer or Landscape Architect becomes aware of work that is unacceptable, whether in application or efficiency, the Contractor shall be required to replace the field crew member in question with another qualified crew member at the Engineer's or Landscape Architect's request.

3.4 APPLICATION OF HERBICIDES

A. Application of herbicides shall be in strict conformance with local, state and federal regulations as well as the manufacturer's product labeling.

B. Herbicides are only to be applied by State of Illinois Licensed Pesticide Applicators and Operators. Proof of license shall be submitted to the Engineer.

C. Herbicide application shall be conducted by an Illinois licensed pesticide applicator, with a specialized license when applicable or by a licensed operator under the supervision of a licensed pesticide applicator with a specialized license.

D. Contractor shall proceed with approved herbicide application only after receiving notification of approval from the Engineer.

E. Contractor shall operate all equipment and apply all herbicides in a safe manner consistent with product labeling and instructions. Applicators shall wear all necessary personal protective equipment (PPE) outlined on pesticide label including but not necessarily limited to: eye, skin, and respiratory protection. Contractor shall, at a minimum, maintain an eye wash station and first aid kit on site when employees are working. Contractor shall meet all local, state, and federal safety requirements.
   1. The Contractor shall be responsible for immediate resolution of any damages and other incidents resulting from the use of herbicides or other chemicals. These incidents include but are not limited to spills, smoke, fumes, and vapors. The Contractor shall bear the cost for the resolution of these incidents.

F. The actual start and completion dates of herbicide application shall be chosen by the Contractor based upon site conditions including wetness, weather, stage of species growth, and the need for follow-up treatments.

G. Preferred herbicide application methods for herbaceous plant control in natural areas include:
   1. Spot-spraying using a sprayer or squeeze bottle to focus application of herbicide to one (1) plant at a time to minimize impact of exposure of overspray onto adjacent plants.
   2. Foliar Application:
      a. Foliar application to intact, green leaves can be accomplished by broadcast spraying with a compression sprayer or more selectively by using a wick applicator or manually wiping the herbicide onto leaves.
      b. Spray application shall not be used if damage to non-targeted plant species is probable.
   3. Hand Wicking:
      a. A cotton wicking glove worn over the chemical resistant glove, wicking wand, or other such device approved by the Engineer shall be used to directly apply herbicide onto the target vegetation.

H. Only herbicides approved for use over water and in wetlands shall be used near open waterways, drainage inlets, wetlands, and other such regulated areas.

I. Care shall be taken not to damage any non-target species.

J. The Contractor shall be responsible for positively identifying all target species before they are treated with herbicide. It is the Contractor's responsibility to implement a marking system for designating target species should it become necessary. Care shall be taken to prevent non-target species impacts from excess herbicide drift. Damage to non-target species shall require the Contractor to restore these areas to pre-damage conditions at the Contractor's expense.

3.5 CLEANING

A. Remove trash and debris from area to be treated with herbicide prior to application.

B. Remove from the site excess materials and equipment associated with Work of this Section upon completion of the work.

C. Contractor shall repair damage resulting from Work of this Section to the satisfaction of the Engineer.

3.6 PROTECTION OF COMPLETED WORK

A. Section 01 70 00 – Execution and Closeout Requirements: Requirements protecting finished work.

END OF SECTION

SECTION 32 92 19
SEEDING

Revised Addendum No. 2 01/04/2019

PART 1 - GENERAL

1.01 SUMMARY

A. This work includes native seeding as indicated on the Drawings and in areas disturbed by the Contractor's operations. Section includes:
   1. Seed quality and provenance.
   2. Scheduling.
   3. Seedbed preparation.
   4. Seed installation.
   5. Seed protection and maintenance.

B. Related Sections:
   1. Applicable provisions of Division 1 – General Requirements shall govern work of this specification section.
   2. Applicable provisions of the project General Conditions, General Specifications sections, and Detailed Technical Specifications utilized for this project.

1.02 REFERENCES

A. Illinois Department of Transportation (IDOT):
   1. Standard Specifications for Road and Bridge Construction, Current edition, including Supplemental Specifications (Standard Specifications).

B. Illinois Seed Law, Ill. Compiled Statutes, Ch. 505, Par. 110/1 et seq., Illinois Revised Statutes, Chapter 5, par. 401 et seq.

C. Federal Seed Act: CFR, Title 7, Part 201 – Federal Seed Act Regulations

D. Plants of the Chicago Region. 1994. Swink, F. and G. Wilhelm.

1.03 DEFINITIONS

A. Weeds: Ecologically objectionable and undesirable species of vegetation in a given area.
   1. Any species identified by the Northeastern Illinois Invasive Plant Partnership, also known as NIIPP (http://www.niipp.net/natural-history-identification) shall be considered a weed.
   2. The following low quality and/or aggressive native species shall be considered weeds:
      a. *Acer negundo* – Boxelder
      b. *Amaranthus hybridus* – Green amaranth
      c. *Ambrosia artemisiifolia* – Common ragweed
      d. *Ambrosia trifida* – Giant ragweed
      e. *Brassica kaber* – Charlock
      f. *Convolvulus sepium* – Hedge bindweed
      g. *Cornus racemosa* – Gray dogwood
      h. *Cyperus esculentus* – Field nut sedge
      i. *Equisetum arvense* – Horsetail
      j. *Erigeron annuus* – Annual fleabane
      k. *Erigeron canadensis* – Horseweed
      l. *Lactuca canadensis* – Wild lettuce
      m. *Lepidium virginicum* – Common peppergrass
      n. *Oxalis europaea* – Tall wood sorrel
      o. *Oxalis stricta* – Common wood sorrel
      p. *Phragmites australis* – Common reed
      q. *Plantago rugelii* – Red-stalked plantain

r. *Potentilla norvegica* – Rough cinquefoil
s. *Solanum americanum* – Black nightshade
t. *Solidago altissima* – Tall goldenrod
u. *Solidago canadensis* – Canada goldenrod
v. *Typha angustifolia* – Narrow-leaved cattail
w. *Typha x glauca* – Hybrid cattail
x. *Verbena bracteata* – Creeping vervain

B. PLS: Pure Live Seed as described in 2.1 C. of this section.

1.04 SUBMITTALS

A. Section 01 33 00 – Submittal Procedures: Requirements for submittals.

B. Submit information specified in the “Quality Assurance” and “Qualifications” Articles. No work may begin prior to approval of these submittals.

C. Provide a list of not less than five successfully completed native seeding projects including name and current contact information of owners.

D. Product Data: Unless otherwise indicated, submit to the Engineer the following for each seed mix provided under work of this Section:
1. Product data for the following materials and components indicating compliance with specified requirements.
   a. Seed mixes.
   b. Inoculants.
   c. Soil amendments.

E. For all seed mixes, submit the following:
1. Lot number for each species.
2. Year of seed production.
3. Tests results from a Certified Seed Lab showing the PLS for each seed lot. All tests must be completed within one (1) year of when seed is installed.
4. PLS weight per acre for each species on this contract.
5. Adjusted bulk seed weight for each species (lot) per acre to meet PLS weight per acre required on this contract.

1.05 QUALITY ASSURANCE

A. Refer to Division 1 Requirements.

B. Ability to Deliver:
1. Investigate sources of supply and confirm they can supply materials in quantity, variety, and quality noted and specified before submitting bid.
2. Failure to take this precaution will not relieve responsibility for furnishing and installing these materials in accordance with Contract documents without additional expense to Owner.

C. Seed shall conform to the requirements of the Illinois Seed Law and, when applicable, the Federal Seed Act, and shall be "Certified" grade or better.

D. Perform Work in accordance with the IDOT Standard Specifications, except as specifically modified herein.

E. Provide the Engineer with written compliance of all listed documentation above.

1.06 QUALIFICATIONS

A. Seed Supplier: Company specializing in producing and/or distributing seed specified in this section with minimum five (5) years experience.

B. Contractor Qualifications:
   1. Contractor shall be a company specializing in seeding installation who has completed landscaping work similar in material, design, and extent to that indicated for this Project and with a record of successful landscape establishment.
   2. Contractor shall have a minimum of five (5) years experience on comparable projects. Use experienced crews.
   3. Contractor shall be familiar with the IDOT standards and specifications.
   4. Contractor's Field Supervision: Require Installer to maintain an experienced fulltime supervisor on the Project site during times that landscape work is in progress.
   5. The work described in this section requires specialized knowledge, experience, skills, and equipment to successfully complete. The Contractor shall possess the full capability to execute the work as specified, including trained, experienced and skilled personnel and possession of or access to the required equipment. The seeding Contractor (may be a subcontractor) shall provide proof of qualifications, including a work history documenting a minimum of five (5) seeding projects completed in the last five (5) years which are comparable in scope, techniques, and size. This information shall include a complete project description, lead foreman experience history, location, client name, and contact information.
   6. The successful bidder will have a qualified and degreed ecologist, who has knowledge in streambank stabilization and restoration, on staff as part of this contract, either as a direct employee of the contractor or as a subcontractor. A resume for the degreed ecologist must be submitted with the bid application. The degreed ecologist/subcontractor must oversee the installation of all vegetation and seeding and supervise the maintenance of the native vegetation for conformance with the contract documents and specifications. Failure to provide required qualifications may result in disqualification of the bid at Owner's discretion. The success of this project is highly dependent upon the manner in which the restoration and maintenance is completed. A firm or person who is a qualified degreed ecologist who is familiar in streambank restoration is necessary to ensure that the project is successful.

Revised Addendum **No. 2**

1.07 SITE CONDITIONS

A. Project Environment:
   1. Seeding shall be performed only when weather and seedbed conditions are favorable for such operations.
   2. No seeding applications shall be done during high winds or when the ground is frozen or in otherwise unworkable conditions.
   3. Operations will be suspended or delayed whenever conditions are unfavorable for such work or as approved by the Engineer.

B. Contractor Equipment:
   1. Equipment of a type, size, capacity or condition unsuited for obtaining first class work and expedition of the job shall be replaced with proper equipment.
   2. Limits of operation shall be restricted to areas approved by the Engineer.

1.08 COORDINATION

A. Section 01 31 19 – Project Meetings.

B. Coordinate the Work with installation of, including but not limited to, pavements, utilities, soils, and planting specified under other sections as the Work of this Section proceeds.

1.09 PRE-INSTALLATION MEETINGS

A. Section 01 31 19 – Project Meetings.

1.10 DELIVERY, STORAGE, AND HANDLING

A. Section 01 61 00 – Common Product Requirements.

B. All seeds shall be packaged and delivered to ensure the viability of the seed material. All seed shall be packed and covered in a manner as to ensure adequate protection against leakage, damage, and to maintain dormancy while in transit.

C. There shall be no seed delivered to the project site or received by the Engineer on Fridays, weekends, or holidays without prior approval.

D. Deliver materials to site in original unopened packages, each bearing name and address of manufacturer, contents, and supplier's guaranteed analysis.

E. Do not use materials which become caked or otherwise damaged.

F. Do not expose materials to weather prior to delivery on site, and after delivery until used.

G. Protect materials and do not store in direct contact with ground.

H. Seeds shall be protected against leakage, damage and moisture to insure viability and dormancy.

1.11 FIELD QUALITY CONTROL

A. Grading Inspection:
   1. Finish grading in accordance with Section 32 93 00 – Planting and Fine Grading shall be inspected and approved by the Landscape Architect prior to seeding.

B. Inspections:
   1. No seed shall be sown until the Landscape Architect has inspected and approved the unopened seed mix bags.
   2. Contractor shall request a provisional inspection by the Landscape Architect upon completion of the work.
   3. Upon completion of the punch list, the Landscape Architect shall make provisional acceptance in writing.
   4. Final acceptance will be after all performance criteria have been met at the end of the specified monitoring and management period or as specified elsewhere, and after all required repairs have been made.

1.12 WARRANTY

   1. Refer to Section 32 93 00.

1.13 FINAL ACCEPTANCE

A. Native Seeding Areas:
   1. Determination of final acceptance of the seeded areas shall be made by the Landscape Architect upon the Contractor's request at the end of the warranty period unless seeding was performed and guaranteed outside of the recommended dates, in which case the inspection dates for establishment shall be as follows;
      a. Seeding performed between June 15 and July 31 will be inspected after April 15 of the following year.
      b. Seeding performed between November 2 and March 31 will be inspected after September 15 of the following year.
   2. Provide notification at least five (5) working days before requested inspection date.

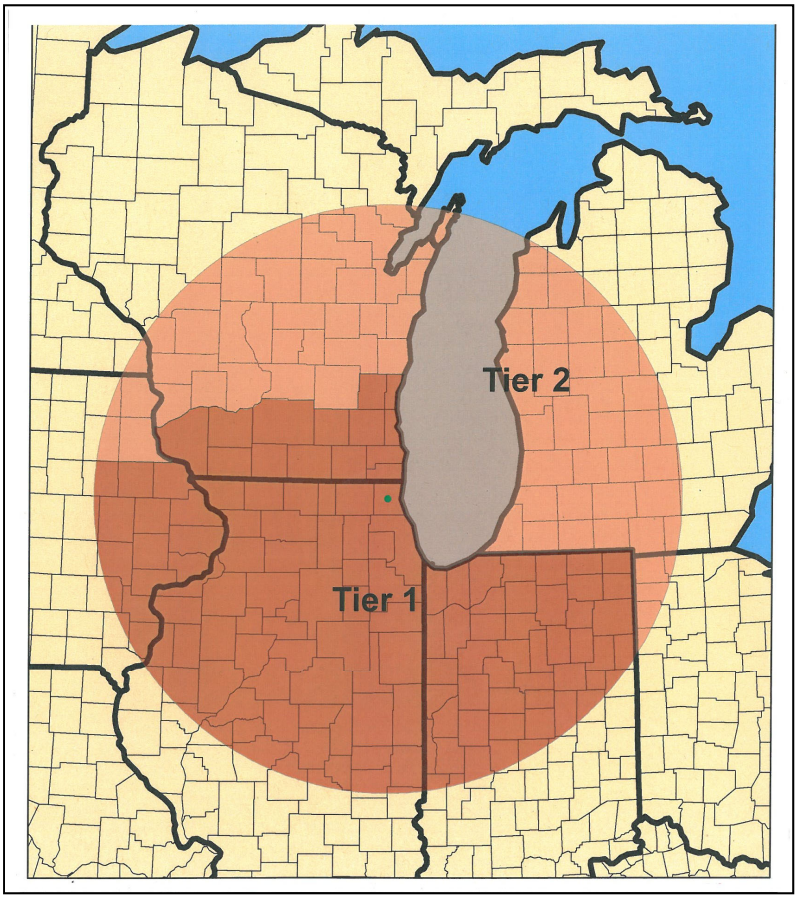
a. Seeded areas shall be accepted provided all requirements, including maintenance, have been complied with and native seed mix is well established and exhibits a vigorous growing condition.
b. Areas failing to show satisfactory establishment shall be reseeded at the Contractor's expense.

PART 2 - PRODUCTS

2.01 SEED

A. Species mixtures shall be as designated on the plans.

B. Native seed shall preferentially have origins (provenance) from locations within Tier 1 on the attached map. If the Contractor can show that any species are not available with Tier 1 origins (provenance), they may be provided with origins (provenance) from Tier 2. Note Tier in submittals.



Plant Provenance Tier Map

1. Tier 1 provenance includes the following counties:
   a. **Illinois**: Bureau, Carroll, Cass, Champaign, Coles, Cook, De Witt, DeKalb, Douglas, DuPage, Edgar, Ford, Fulton, Henderson, Jo Daviess, Kane, Kendall, Knox, La Salle, Lake, Lee, Livingston, Logan, Macon, Marshall, McDonough, McHenry, McLean, Menard, Mercer, Moultrie, Ogle, Peoria, Piatt, Putnam, Rock Island, Sangamon, Schuyler, Stark, Stephenson, Tazewell, Vermilion, Warren, Winnebago, Whiteside, Warren, and Woodford counties.
   b. **Wisconsin**: Dane, Grant, Green, Iowa, Jefferson, Kenosha, Lafayette, Milwaukee, Ozaukee, Racine, Rock, Walworth, Waukesha, Waukesha, and Washington counties.
   c. **Indiana**: Adams, Allen, Benton, Blackford, Boone, Carroll, Cass, Clinton, De Kalb,

Delaware, Elkhart, Fountain, Fulton, Grant, Hamilton, Hendricks, Howard, Huntington, Jasper, Kosciusko, Lake, LaGrange, LaPorte, Madison, Marshall, Miami, Montgomery, Newton, Noble, Parke, Porter, Pulaski, Putnam, St. Joseph, Starke, Steuben, Tippecanoe, Tipton, Vermillion, Wabash, Warren, Wells, White, and Whitley counties.

d. **Iowa**: Buchanan, Cedar, Clinton, Delaware, Des Moines, Dubuque, Jackson, Johnson, Jones, Linn, Louisa, Muscatine, and Scott counties

C. Seed material shall conform to the following requirements:
   1. Any seed that does not meet these specifications will be rejected.
   2. The original (wild) source of seed shall be guaranteed within a 200-mile radius of Will County, Illinois and identified by its origin tier.
   3. All species shall be provided on a PLS basis. PLS shall be defined as (purity) x (total germination). Total germination is defined as (germination + hard seeds + dormant seeds). TZ can be substituted in lieu of total germination if necessary.
   4. The bulk weight of any species that is less than 100% PLS must be increased in quantity to achieve the required PLS seed weight.
   5. All species with dispersal appendages (e.g. *Asclepias*, *Aster*, *Liatris*, *Solidago*, etc.) and marked “DF” in species lists shall be supplied on a de-fluffed basis. Contractor must indicate in their submittal if seed is not available on a de-fluffed basis. If seed is not de-fluffed, Contractor must increase quantity of that species by 25% at no additional cost to Owner.
   6. All “hulled” species (e.g. *Desmodium*, *Lespedeza*, *Dalea*, etc.) and marked “DH” in the species lists shall be supplied on a de-hulled basis. Contractor must indicate in their submittal if seed is not available on a de-hulled basis. If seed is not de-hulled, Contractor must increase quantity of that species by 25% at no additional cost to Owner.

A. Prior to installation, the Contractor shall submit any proposed species substitutions or quantity deviations to the Engineer for review. The Engineer reserves the authority to deny substitutions and deviations from the listed quantities.

B. All seed furnished shall be true to species name for each seed mix specified on the plans.

C. Packaging for all seed mixes shall clearly be labeled on the outside with all species contained in the mix, and include the following information:
   1. Scientific name of each species in the mix.
   2. PLS value, PLS weight, and bulk weight for each species in the mix.
   3. Adjusted bulk seed weight for each species per acre to meet PLS weight per acre required on this contract.
   4. Quantity, as both weight and acreage, for each species and overall mix.

D. Seed tests must be submitted and approved prior to delivery of any seed to the site. Include complete information on year of seed production and date of seed tests.
   1. Seed tests must be within one year of when the seed is sown.

E. All legume species shall be supplied with the appropriate bacterium inoculants.

F. Clearly mark seed packages that require refrigeration/freezer storage.

G. Provide a Pick Ticket with each shipment.

H. All seeds shall be packaged to ensure the viability of the seed material upon delivery to the project site.

I. All seed shall be packed and covered in such a manner as to insure adequate protection against leakage, damage, and to maintain dormancy until sown.

J. The Contractor must submit a written description of the seed materials including the following information for approval prior to delivery of any seed to the site:

1. Origin of the various species of seed.
2. Name and location of seed supplier, if not from Contractor's nursery.
3. Certificate of compliance from appropriate regulatory agencies indicating approval of seeds.

K. All legume species shall have the proper inoculants supplied with them.

2.02 SOIL AMENDMENTS

A. All native seed mixes shall be combined with an appropriate endomycorrhizal inoculant, such as AM 120 Mycorrhizal Inoculum or approved equal. The inoculants shall contain a diverse mixture of glomales fungal species (*Glomales* spp.) in pelletized form. Application rate shall be in conformance with the selected manufacturer's recommendations. All native seed shall be mixed with a granular form of endomycorrhizal inoculants prior to installation.
   1. The inoculants application rate shall be a minimum of 40 pounds/acre.

2.05 WATER

A. Water shall be free from oil, acid, alkali, salts, and other harmful substances. Water may be utilized from potable or non-potable sources. Owner will not be responsible for providing supplemental water. Any available water sources located on Owner property shall not be utilized without written permission of Owner.

2.06 CARRIER AGENT

A. Carrier agent for native seeding shall be perlite, ground corn cobs, vermiculite, or similar material approved by the Landscape Architect.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Section 01 31 19 – Project Meetings.

B. Contractor shall carefully inspect all prior work and existing conditions, and shall notify the Engineer immediately of all conditions that would impair proper execution of the work.
   1. Verify that the topsoil is ready in accordance with Section 32 93 00 to receive the Work of this section.
   2. Confirm notification with the Engineer in writing.
   3. Failure to notify at start of work constitutes acceptance of existing conditions.

3.02 SCHEDULE FOR SEEDING

A. Seeding, soil amendments, and installation of erosion control blankets and turf reinforcement mat shall be performed during the following time frames:
   1. Native seeding shall be conducted as a dormant seeding after October 15 through December 31 excluding times when the ground is frozen or covered with snow.
      a. No seeding shall be outside of the specified window without the Engineer's prior written approval.
      b. Weather conditions within season shall govern actual planting periods.
      c. Seasons may be extended upon approval by the Engineer, however, such time extensions shall not change Contractor's responsibility for establishing healthy and vigorous vegetation.
   2. Turf seeding shall be performed between April 1 and May 15 or between August 1 and September 15. The Contractor may elect to perform this seeding immediately after work progress allows; however, all responsibility for supplemental watering to stimulate germination and sustain growth shall rest with the Contractor. Guaranty and maintenance requirements as specified herein are not changed or relieved by the timing of seeding.

3.03 SEEDBED PREPARATION

A. Surface Preparation:
   1. Gullies and washout shall be filled to conform to desired shape and final grade. Entire area to be seeded shall be reasonably smooth before actual seedbed preparation begins.
   2. Stones, sticks, and stumps larger than one (1) inch in any dimension, and other debris which would interfere with seeding operations, growth or maintenance of vegetative cover shall be removed.
   3. Any existing weeds shall be treated with a non-selective non-residual herbicide prior to seeding. Comply with directions on herbicide label including reseeding interval.

B. Seedbed Preparation:
   1. Seedbed shall be prepared with suitable tillage equipment to a three (3) inch minimum depth.
   2. Area to be seeded shall be worked until all soil particles are reduced to a size not larger than one (1) inch in the largest dimension.
   3. Prepared surface shall be free from all weeds, clods, stones, roots, sticks, rills, crusting and caking.

C. Inaccessible Areas:
   1. For areas inaccessible to machinery, a suitable seedbed shall be prepared to a minimum depth of one (1) inch, using hand tillage tools such as a rake or other suitable tillage tools.

D. Restrictions: Contractor shall suspend seeding operations when soil is too wet, too dry, frozen, untillable, or at request of the Engineer.

B. If compaction is present in graded areas (e.g. haul roads), chisel plowing the upper three (3) to six (6) inches using a construction ripper, rock rake, or similar equipment will be required in addition to seedbed preparation described above.

F. Approval:
   1. Seeding shall commence immediately after seedbed preparation, or at a later time provided seedbed remains in a friable condition suitable for seeding.
   2. If topsoil has become compacted, crusted over, glazed, or otherwise unfavorable for seeding, Contractor shall repeat seedbed preparation at no additional cost to the Owner.
   3. No seeds shall be sown until the seedbed has been approved by the Engineer.

G. If the long-term (i.e. permanent) seed matrix is not installed with the temporary cover crop, the permanent matrix shall be planted in the first available dormant seeding season.

3.04 FERTILIZATION (TURF SEEDING ONLY)

A. Fertilizer shall be applied at a rate of two (2) pounds of nitrogen per 1,000 square feet or 87 pounds of nitrogen per acre using a calibrated drop spreader or other mechanical method that will result in uniform coverage. Application of fertilizer by hand is not acceptable.

B. Fertilizer shall be applied prior to turf seeding. No fertilizer shall be applied until the Engineer has inspected and approved the products.

C. Use of fertilizer outside of turf seeding areas is prohibited. No fertilizer shall be applied in areas of native seeding including Wetland Terrace, Mesic Prairie, Shoreline, and Riparian.

3.05 SEED INSTALLATION

A. General:
   1. All areas of bare soil which have been graded or otherwise disturbed by construction shall be seeded, unless below normal water level or specified on the plans otherwise. Refer to the plans

for locations of the specified seed mixes. No seed shall be sown during unfavorable conditions such as high winds or very wet soil.

2. Temporary work areas, staging areas, haul roads, and all other similarly disturbed areas which require restoration shall be prepared and seeded according to the requirements of this section.
3. Contractor shall provide the Engineer 48 hours notice of intent to perform seeding operations.
4. Seeding operation shall be performed immediately after preparation of seedbed and approval is received from the Engineer.
5. Ideally, seeding shall occur when the soil is moist to dry-damp and shall be timed such that rainfall occurs within 48 hours of seeding (particularly if seeding in early spring). No seed shall be sown when winds exceed a velocity of ten miles per hour or when the ground is not in proper condition for seeding. No seed shall be sown until purity testing has been completed and approved for the seeds to be used. Only seeds meeting noxious weed requirements shall be used.
6. The last areas to be seeded/re-seeded will be site access points.
7. Seeded areas impacted by the Contractor's vehicular traffic or other such damages shall be reseeded by the Contractor without delay and at no additional cost to the Owner.
8. All seeded areas shall be protected from erosion and sedimentation. Erosion and sediment control measures shall be installed as detailed on the plans and in the specifications. Erosion control blankets and turf reinforcement mat shall be in accordance with the requirements of this section and in accordance with the plans.

B. Native seeding:

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1. Native seeding includes the following zones and mixtures: Seeded Native Mix, Parking Area Seeded Mix, and Detention Area Seeded Mix.
2. The primary method for native seeding is broadcasting with a carrier agent via a mechanical spreader. Hydroseeding can be used for areas with erosion issues, or other hard to access areas, with prior approval of the Engineer. Other methods may be presented to Engineer for consideration. The Engineer will have final approval of the installation method.
    a. Prior to starting work, mechanical seeders shall be calibrated and adjusted to sow seeds at the specified rate.
    b. If a mechanical broadcast seeder (e.g. Cyclone or Seed Slinger) is used, the equipment shall be operated in a manner to ensure complete coverage of the entire area to be seeded. The seed shall be broadcast in two separate applications, with each application of seed overlapping the previous application by one-half the weight to ensure double coverage of the seeded area. For example, half the weight of seed would be installed in a north-south direction and the remaining half would be installed in an east-west direction.
    c. Where soil conditions are too wet or slopes are too steep for mechanical broadcasting, hand broadcasting or hydraulic application of the seed is acceptable on exposed soils only. Seed to be hand shall be mixed with and equal volume of carrier agent to ensure even distribution.
3. The seed shall be mixed and planted with a granular form of endomycorrhizal inoculants at a rate of 40 pounds/acre.
4. Roll seeded areas perpendicular to the slope within 12 hours of seeding with a cultipacker or other approved equipment.
5. The use of rangeland-type seed drills will not be permitted without the written permission of the Engineer.

3.06 EROSION CONTROL

A. Refer to Section 31 25 00.

3.07 SEED PROTECTION AND MAINTENANCE

A. Maintain seeded areas to ensure that intended vegetation becomes well established and exhibits a vigorous growing condition.

C. Protection: Contractor shall take measures to prevent damage to areas of work as follows;

1. Damage resulting from erosion, traffic, or any other cases shall be repaired by filling with topsoil, tamping, and seeding with the originally specified seed mixture by the Contactor.

D. Weeding:
   1. Contractor shall remove weeds, as defined in Article “Definitions” and other unintentional vegetation by least disruptive means possible. All removed weeds shall be bagged and removed from the project site. No composting of weed materials is allowed on the project site.
   2. Contractor shall provide written options for methods of removal for approval by the Engineer or Landscape Architect prior to weeding.

E. Watering of turf areas:
   1. Furnish sufficient water to apply complete coverage once each week to the seeded areas in an eight (8) hour period penetrating the soil to a minimum depth of four (4) inches until germination.
   2. Weather conditions shall dictate the need for additional watering.
   4. At no time shall a water tank truck be allowed on the seeded areas.

H. After any rainfall event, the Contractor is responsible for maintaining seeded slopes to prevent or repair erosion.

Revised Addendum No. 2

3.08 SUPPLEMENTAL WATERING AND MAINTENANCE

A. Maintenance of the native vegetation is vital to the success of the project. The items outlined in this specification are recommendations for achieving a successful establishment and management of the native vegetation. Twice annual monitoring of all native plant communities shall be conducted for three full growing seasons following initial implementation.

B. The site visits each year shall be conducted between June 1 and September 30. Each visit shall be conducted by a qualified professional with adequate plant identification skills and who is also able to make recommendations regarding management of native plant communities and stream structure maintenance. The site inspector shall collaborate over the needed maintenance requirements for a given year with the City of Joliet and the Engineer. The preferred management schedule and & performance standards for all native plant communities following initial installation is as follows:

   1. Herbicide application: Contractor shall eradicate herbaceous noxious weed species. It is the responsibility of the contractor to protect native species and areas outside of the project area during execution of the work described in this section. The contractor shall restore all areas affected or disturbed by the work according to the approved plans and specifications at no additional cost to the owner. The contractor shall maintain copies at the project site of all current pesticide applicator's licenses, herbicide labels, and MSDS's (material safety data sheets) for all chemicals utilized during completion of the work. Herbicide shall be mixed and placed in containers away from any natural area, trees, shrubs, herbaceous or woody growth, or body of water. Herbicides shall not be transported to the work area in any container other than that used for application. Wick or spot application with rodeo or aqua neat: reed canary grass, teasel, buckthorn, thistles, sweet clover, and purple loosestrife present in the project vicinity should be treated directly with a 2% solution of rodeo or aqua neat. Best application period is just before or during the very earliest stages of flowering. Where large patches of target weeds are present it may be necessary to use a larger wick or broadcast unit. Several back-to-back treatments may be necessary to be effective in eliminating these noxious weeds.

3. Mowing: The contractor shall mow native plant communities to a height of 6”-10” after vegetation in said areas reaches a height of 24” and before non-native species go to seed two times during first growing season. The contractor shall also mow to a height of 12” up to two times during the second growing season (approximately mid-June and mid-August) and possibly one time during the third growing season (approximately mid-June) unless the Engineer determines that mowing is not needed. Mowing should be done with a rotary bush hog style mower to ensure clippings are dispersed rather than deposited in dense mats, which smother vegetation, or the clippings/branches should be removed from the mowed area. In the instance of dense patches of non-native or invasive species greater than 100 square feet, Contractor shall collect, bag, and dispose of clippings off site in a legal manner and in accordance with the Division 1 specifications.
4. Prescribed Burning: Prescribed burning shall be the primary method for long-term ecological management and weed control on the site. Burning shall begin following the third growing season and be conducted in the fall of 2021 (November-December). Burning should be conducted by a licensed contractor experienced in burn planning and permit application as well as prescribed burn management. Prior to the commencement of prescribed burning, the contractor shall compile a burn plan that outlines a plan of action, identifies contingencies, and lists the names and phone numbers of emergency agencies (fire department, police department, etc.). Proper notice of intent to burn shall be given. The contractor shall apply for and receive all required permits prior to the commencement of prescribed burning.

C. The contractor shall provide the City of Joliet with a maintenance bond for a three year period after the final completion date. The maintenance bond shall be in the amount of 10% of the total contract price. This work shall be measured for payment in ANNUAL. This work shall be paid for at the contract unit price per ANNUAL (YEARS) for SUPPLEMENTAL WATERING AND MAINTENANCE which price shall include all machinery, herbicide, permitting, labor, equipment and all associated items as described above.

3.09 CLEANING

A. Perform cleaning of the work area during installation of the work and upon completion of the work.

B. Remove from the site excess materials, packaging, debris, and equipment associated with work of this Section upon completion of the work.

C. Contractor shall repair damage resulting from seeding operations to the satisfaction of the Engineer.

3.10 GUARANTY

A. Upon completion of seeding operations, the Contractor shall become responsible for protecting the seeded areas from any damage resulting from foot or vehicle traffic, vandalism, or weather. When possible, isolate and contain the completed areas with temporary fencing or other such means. Erosion or soil subsidence caused by rain shall be repaired to the original grade, prepared for seed, reseeded, and the specified erosion control blanket or turf reinforcement mat reapplied. Any damage which occurs before achieving the performance and guaranty criteria shall be repaired to original specifications by the Contractor at no expense to Owner.

B. Seeded areas shall have a minimum of 90% ground coverage with active growth of installed species and no bare ground greater than two square feet before initial acceptance. The minimum ground coverage shall be achieved within 90 days of the original seeding, excluding the winter months of November through March. The Contractor shall promptly remove any erosion control blankets or turf reinforcement mat and reseed the bare areas according to the specifications as

necessary until the minimum coverage is achieved. When weed species interfere with proper establishment, the Contractor shall apply and appropriate herbicide to reduce competition. After each reseeding, the Contractor shall install new erosion control blankets or turf reinforcement mat as originally indicated on the plans.

C. Any erosion control blankets or turf reinforcement mat which becomes displaced for any reason shall be reinstalled to its original condition and position with additional staples. Any erosion control blankets or turf reinforcement mat which becomes damaged or otherwise ineffective shall be replaced with new product. All rills and gullies shall be repaired, and the area shall be reseeded prior to reinstallation of erosion control blankets.

END OF SECTION

SECTION 32 93 00
PLANTING AND FINE GRADING

Revised Addendum No. 2 01/04/2019

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. All of the Contract Documents, including General and Supplementary Conditions and Division 1 General Requirements, apply to the work of this Section and are hereby made a part of this Section.

B. Examine all Drawings and other Sections of the Specifications for requirements therein affecting the work of this trade.

1.02 SCOPE OF WORK:

A. The work of this Section includes, but is not limited to, the following:
1. Trees and shrubs.
2. Groundcover, Perennial and Herbaceous plants.
3. Mulch, fertilizer and other soil amendment applications to suit plant type during and after planting.
4. Plant anchoring system.
5. Protecting and Maintaining the Completed Work.
6. Warranty and Maintenance.
7. Coordination with other Trades.
8. Clean up.
9. Post installation maintenance.
10. Warranty

B. Extent of Landscaping Work: In addition to the work indicated, Landscape work includes restoring all areas within the limit of work disturbed by work of the Contract and coordination of work with other subcontractors.

1.03 RELATED SECTIONS:

A. The following items of related work are specified and included in other Sections of the Specifications:
1. Section 01 57 19 – Temporary Environmental Controls.
2. Section 03 30 00 – Cast-In-Place Concrete.
3. Section 04 21 13 – Brick Masonry.
4. Section 31 22 00 – Grading.
5. Section 31 31 19 – Vegetation Control.
6. Section 32 92 19 – Seeding.
7. and Contract Documents of other separate contract(s):

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1.04 REFERENCES:

A. ANLA: American Nursery & Landscape Association.

B. ANSI: American National Standards Institute.

C. AOAC: Association of Official Agricultural Chemists.

D. ASTM: American Society for Testing Materials.

1.05 STANDARDS:

A. The references listed herein shall be the standards used for performance of the Work: All standards shall include the latest and current additions and amendments.

1. American National Standards for Tree Care Operations, ANSI A300. American National Standards Institute, 11 West 42nd Street, New York, N.Y. 10036.
2. American Standard for Nursery Stock, ANSI Z60.1. American Nursery and Landscape Association, 1250 Eye Street. NW, Suite 500, Washington, D.C. 20005.
3. Horticultural Standards, American Nursery & Landscape Association.
4. Hortus Third, The Staff of the L.H. Bailey Hortorium. 1976. MacMillan Publishing Co., New York.
5. Standardized Plant Names, American Joint Committee on Horticultural Nomenclature, 1942 edition.
6. American Society for Testing Material (ASTM).
7. International Society of Arboriculture.

1.06 DEFINITIONS:

A. Balled and Burlapped Stock: Exterior plants dug with firm, natural balls of earth in which they are grown; wrapped, tied, rigidly supported, and drum-laced as recommended by ANSI Z60.1.

B. Container-Grown Stock: Healthy, vigorous, well-rooted exterior plants grown in a container with well-established root system reaching sides of container and maintaining a firm ball when removed from container. Container shall be rigid enough to hold ball shape and protect root mass during shipping and be sized according to ANSI Z60.1 for kind, type, and size of exterior plant required.

C. Bare Root Stock: Healthy, vigorous, plants grown without artificial root restriction devices, such as containers or fabric bags and have a well-established and branched root system. All bare root plant material shall be installed no later than the first week in May of each year. Conform to ANSI Z60.1 for storage, kind, type, and size of exterior plant required.

D. Finish Grade: Elevation of finished surface of planting soil.

E. Planting Soil: Soil produced off-site by homogeneously blending mineral soils or sand with stabilized organic soil amendments to produce topsoil or planting soil.

F. Topsoil: Native or imported topsoil, manufactured topsoil, or surface soil modified to become topsoil; mixed with soil amendments.

G. Subgrade: Surface or elevation of subsoil remaining after completing excavation, or top surface of a fill or backfill, before placing planting soil. See Section 31 22 00 & Section 31 23 00.

H. Final Acceptance: After all Punch List work has been completed and accepted, the Contractor shall request in writing for the Landscape Architect to perform a final inspection for the purpose of Final Acceptance of the work. The Landscape Architect shall not give Final Acceptance until all Punch List work has been accepted. The maintenance and warranty periods shall not commence until Final Acceptance is granted by the Landscape Architect.

1.07 SUBMITTALS:

A. Submittals shall conform to Division 1 requirements.

B. Product Data: Provide manufacturer's data for each type of product indicated showing installation and limitations in use.

C. Product Certificates: For each type of manufactured product, signed by product manufacturer, and complying with the following. Submit inspection certificates required by authorities having jurisdiction. Supply Certificates of Compliance for all materials required for fabrication and installation, certifying that each material item complies with, or exceeds, specific requirements.

1. Manufacturer's certified analysis for standard products including, but not limited to:
   a. Soil amendments.
   b. Mulch, maturity certification.
2. Analysis of other materials by a recognized laboratory made according to methods established by the Association of Official Analytical Chemists, where applicable.

D. Material Test Reports: Submit certified reports for tests required, including:

1. Mechanical and chemical analysis of existing surface soil and imported topsoil.
2. Miscellaneous tests listed herein. Analysis of other materials by a recognized laboratory made according to methods established by the Association of Official Analytical Chemists, where applicable.

E. Qualification Data: For landscape Installer's, Project Manager, Site Superintendent/Foreman, showing five (5) years of experience, certifications and licenses, education, projects worked on of a similar size, scale and complexity. For each project list client, type of project, cost of project, duration and role of personnel.

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1. Provide a minimum of three (3) project references (name, title, company, phone number and email address) for the Project Manager and Site Superintendent/Foreman. For every project provide at least one Landscape Architectural reference with whom the Site Superintendent / Foreman has collaborated on the in-field placement and coordination of site/landscape activities.

F. Samples and Submittals for Verification: Prior to ordering the below listed materials, submit representative samples and submittals to Landscape Architect for selection and approval as follows. Do not order materials until Landscape Architect's approval has been obtained. Delivered materials shall closely match the approved samples. Submit duplicate samples of each type listed below showing full range of color variation, finish and texture that can be expected in the permanent work:

1. Mulch: At least two pint-bag of partially decomposed leaf waste mulch of the type to be used on this project.
2. Staking materials, Wood Stakes and Duck-Bill System.
3. Nursery Source Plant List.

4. Hydromulch Mix (30% paper, 70% wood).
5. Root Dip Mycorrhiza Gel

G. Delivery and Storage: Prior to construction the Contractor shall submit for the Landscape Architect's review and approval a plan showing proposed routing for deliveries and access to the site as well as on site storage of all plant material.

H. Plant Source: The Contractor shall submit for the Landscape Architect's review and approval a list indicating the plant botanical and common name, size, quantity, form, rootball, limb height (if applicable) and source for the plants. Plant list shall clearly indicate deviations from the specified plant list and any proposed substitutions.

1. Submit a complete list of all plant material for Project with nursery source identification for each plant.
   a. Include in plant list the botanical and common names, size, quantity, form, root ball, limb height (if applicable), other requested data, and source locations for all plant materials.
   b. Include names, addresses, and phone numbers of each nursery source associated with each plant item.
   c. Plant lists shall clearly identify deviations from the specified plants and any approved substitutions. Submit substitution requests, if any, as specified in Division 1 Section 01 33 00 "Submittal Procedures". Where deviations or other changes occur in plant list, identify both the original specified plant item and the new plant item.
   d. Plants listed with submittal shall be available at the nursery for inspection and selection as specified herein. Contractor shall evaluate and verify at proposed nursery source that plant material conforms to the requirements of the Contract Documents prior to scheduling Landscape Architect's inspection and selection/tagging trip.
2. Maintain and re-submit updated Plant List and Source Identification as deviations or other changes occur until Substantial Completion. Submit as a Record Document at completion of Contract work.

I. Plant Photographs: Provide photographs of plant material as indicated herein.

J. Planting Schedule: Indicating anticipated planting dates for plants.

1.08 QUALITY ASSURANCE:

A. Installer Qualifications: A qualified landscape installer whose work has resulted in successful establishment of exterior plants.

1. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when exterior planting is in progress.

B. Testing Laboratory Qualifications: An independent laboratory, recognized by the State Department of Agriculture, with the experience and capability to conduct the testing indicated and that specializes in types of tests to be performed.

1. Employ at Contractor's expense a qualified independent testing and inspection laboratory acceptable to the Landscape Architect and Owner to perform tests and certifications indicated. Tests shall be made in strict compliance with the standards of the Association of Official Analytical Chemists.

C. Plant Materials: Provide quality, size, genus, species, and variety of exterior plants indicated. Provide only healthy, vigorous stock, grown in a recognized nursery acceptable to the Landscape Architect and free from disease, insects, eggs, larvae, and other defects. Provide plants in strict compliance with the recommendations of the following:

1. ANSI Z60.1, American Standard for Nursery Stock, latest edition.
2. American Association of Nurserymen, Horticultural Standards.
3. American Joint Committee on Horticultural Nomenclature, Standardized Plant Names, 1942 edition.
4. International Society of Arboriculture.

D. Labeling: Label at least one specimen of each variety and size with a securely attached, waterproof tag bearing legible designation of botanical and common name in compliance with the recommendations of the American Nursery & Landscape Association.

E. Tree and Shrub Measurements: Measure according to ANSI Z60.1 with branches and trunks or canes in their normal position. Do not prune to obtain required sizes. Measure main body of tree or shrub for height and spread; do not measure branches or roots tip-to-tip.

F. Pruning: Pruning of plants is prohibited except to remove dead or broken branches and limbs. Confer with Landscape Architect and Owner before any pruning. Plants pruned without permission from the Landscape Architect and Owner is subject to rejection and replacement.

G. Inspection: Landscape Architect will inspect plant materials at place of growth before planting for compliance with requirements for genus, species, variety, size, and quality. Landscape Architect and Owner retain right to inspect plant materials further for size and condition of balls and root systems, insects, injuries, and latent defects and to reject unsatisfactory or defective material at any time during progress of work even if previously inspected and approved. Remove and replace rejected plants immediately from Project site at no change in Contract Amount.

1. Selection: All plants shall be tagged in the nursery by the Landscape Architect prior to digging of plants. The Landscape Architect and Owner shall place seals on selected plants at the nursery. Seals shall remain on plants until the acceptance of the work. At least three weeks prior to expected planting date, request, in writing, the Landscape Architect's inspection of plant material at the nursery. The Landscape Architect shall make their own travel arrangements.
2. Photographs: At the Landscape Architect's option and/ or request, the Contractor shall supply the Landscape Architect with photographs of plants for the project.
    a. The photographs shall be taken at the nursery source. Photographs shall include images showing the full range of characteristics of each plant including detailed photographs of the bark, the base of the tree (rootball crown), leaves, branching structure, form, and habit. Images shall include a scale figure or measuring device to indicate true size.
    b. Contractor shall label each photograph with the plant species botanical name, nursery name, and date of photograph.
3. Nursery Source: The Landscape Architect shall have the right to reject any nursery source if he/ she determine before, during or after inspecting or receipt of plants, any of the following:
    a. The nursery stock does not meet quality standards set forth herein.
    b. The nursery stock does not meet the intended visual characteristics of the plants as determined by the Landscape Architect.
    c. The nursery cannot supply the specified plant(s) or an acceptable substitute cultivar or species.
    d. The nursery's cultural practices or maintenance procedures do not meet specified standards.

e. The nursery or plants are infested with pests or disease.

H. Pre-installation Conference: Conduct conference at Project site to comply with requirements in Division 1.

I. Plant Sources: The Contractor shall submit to the Landscape Architect any questions regarding the source of any plant. The Landscape Architect has endeavored to locate plants at the nursery sourced below. Additional sources may be used for plants not available at the nurseries listed below provided the Landscape Architect has approved the source.

1. Trees have been located at the following sources, however makes no claim or in no way guarantees that the plants will be available at the time of installation:

a. Kaneville Tree Farms Inc.
P.O. Box 167
3S320 Harter Road
Kaneville, IL 60144
Tel: 630.557.2793

b. Kankakee Nursery
P.O. Box 288
Aroma Park, IL 60910
Tel: 815.937.9358

c. Johnsons Nursery
W180 N6275 Marcy Rd
Menomonee Falls, WI 53051
Tel: 262.252.4988

2. Other Plants including Shrubs, Perennials and Groundcover: Other sources include, but are not limited to, those listed below:

a. Hinsdale Nursery
7200 S Madison St
Willowbrook, IL 60527
Tel: 630.323.1411

b. Johnsons Nursery
W180 N6275 Marcy Rd
Menomonee Falls, WI 53051
Tel: 262.252.4988

1.09 DELIVERY, STORAGE, AND HANDLING:

A. Store and handle packaged materials in strict compliance with manufacturer's instructions and recommendations. Plants shall be closely monitored for sufficient root moisture. Protect all materials from damage, injury and theft.

B. Sequence deliveries to avoid delays, but minimize on-site storage.

1. On-site storage space is limited and is restricted to a 24-hour period for any one material, plant or group of plants. On site storage is permissible only with written notice from the Owner.

2. Deliver materials and plants only after preparations for planting have been completed and accepted, including but not limited to: subdrainage system, irrigation, rough grading, utilities, decompaction or remediation of soils. The Landscape Architect shall determine if the site is acceptable for planting.

C. Prohibit vehicular and pedestrian traffic on or around stockpiled planting soils and / or topsoil.

D. Deliver plants freshly dug.

E. Do not prune trees and shrubs before delivery, except as approved by Landscape Architect. Protect bark, branches, and root systems from sun scald, drying, sweating, whipping, and other handling and tying damage. Do not bend or bind-tie trees or shrubs in such a manner as to destroy their natural shape. Provide protective covering of exterior plants during delivery. Do not drop exterior plants during delivery.

F. Deliver plants after preparations for planting have been completed and install immediately. If planting is delayed more than six hours after delivery or if plants are to be stored off site set exterior plants in shade, protect from weather and mechanical damage, and keep roots moist.

1. Set balled stock on ground and cover ball with soil, sawdust, wood chips, straw mulch, or other acceptable material.
2. Do not remove container-grown stock from containers before time of planting.
3. During the growing season, stored plant material shall be watered and the rootball kept moist with an automatic drip irrigation system to prevent drying out. Do not move trees if rootballs are saturated. Mist plants several times a day if necessary to reduce transpiration in sunny or windy locations.
4. During the dormant season, rootballs shall be insulated against freezing and cold weather damage. Plants shall be protected from cold, wind and ice damage.
5. During the storage period, inspect all plants for pests and diseases and have them evaluated by a certified arborist.
   a. Before proceeding, report issues and recommend treatment to the Landscape Architect for review and approval.
   b. Whenever possible, select and use organic treatments.
   c. Isolate trees with diseases or pests. Remove any plants from the site and replace if the Landscape Architect determines that they are unusable
6. For plants stored on-site more than 12 hours, the Contractor must keep a maintenance log. The log shall include information on the watering, misting, and protection of plants. The date, time, type of maintenance and name of maintenance personnel shall be included in the log.
7. The Contractor shall fully inspect and maintain plants for the entire duration of the storage period.
8. All stored plants shall remain the property of the Contractor and shall be replaced in kind to meet the standards defined herein for healthy plants and the character and habit defined by the Landscape Architect. The Landscape Architect shall be the sole evaluator whether replacement plants match the originally stored plants.
9. No plant shall be stored more than four weeks at any location without written acceptance by the Landscape Architect or Owner.

1.10 PROJECT CONDITIONS AND COORDINATION:

A. Utilities: Determine and stake the location of all underground utilities before project staking. All project installed utilities should be located in coordination with Illinois One-Call (JULIE) CALL 811 OR 1-800-892-0123.

B. Concealed Conditions: Notify Landscape Architect before planting when below grade conditions are detrimental to proper plant growth are encountered. Do not proceed with planting without specific written instructions from the Landscape Architect.

C. Sequence of Planting: Plant trees and shrubs after finish grades are established and before planting lawns, groundcovers and other herbaceous material, unless otherwise approved by the Landscape Architect. Complete landscaping work as quickly as possible on portions of the site as they become available for landscaping.

1. When planting trees and shrubs after lawns, protect lawn areas and promptly repair damage caused by planting operations.
2. The Contractor shall first determine that the installation of erosion control fabric is complete in all meadow areas prior to seeding. The meadows shall be hydroseeded and hydromulched on top of the installed erosion control fabric.

D. Planting Seasons: Work only within seasonal limitations for proper planting as follows:

Item	Spring Season	Fall Season
Deciduous (container)	March 15 to June 1	Sept. 1 to Nov. 15
Deciduous (balled and burlapped)	March 15 to June 1	Sept. 1 to Nov. 30
Evergreens	March 30 to June 15	Sept. 1 to Nov. 15
Groundcover	April 15 to June 15	Sept. 1 to Oct. 15
Perennials	May 15 to June 15	Sept. 1 to Oct. 15 or first frost
Bulbs	N/A	Nov. 1 to Dec. 1

E. Fall Dig Hazard: Many species of trees or shrubs are considered “Fall Transplanting Hazards” by the nursery trade. Fall Transplanting Hazards are to be transplanted only during the spring digging season, except as otherwise authorized in writing by the Landscape Architect. The Contractor shall identify Fall Transplanting Hazards from the plant schedule, and factor the proper handling of these trees into the overall sequencing of construction. The Contractor shall notify the Construction Manager and Landscape Architect of any conflicts arising from this analysis of the plant list and schedule.

1. Fall Dig Hazard species include, but are not limited too:
   a. Acer sp. (Maple)
   b. Betula sp. (Birch)
   c. Cercis canadensis
   d. Cornus sp. (Dogwood)
   e. Fagus sp. (Beech)
   f. Ilex opaca
   g. Koelreuteria paniculata
   h. Malus sp. (Crabapple)
   i. Prunus sp. (Cherry)
   j. Salix sp. (Willow)

F. Water: The Contractor shall bear the cost of supplying all water and shall reimburse applicable governing authorities for all water used for the project.

1. Water connections are available on site. Contractor shall install temporary water meter to measure water consumption. The Contractor shall immediately notify the Owner in writing if water is insufficient for work and maintenance operations.
2. Provide as needed water from sources free from impurities injurious to vegetation.
3. Provide all hoses and equipment as needed to distribute water to area of landscape work and areas needing watering. Provide water tank trucks as needed, at no additional cost, if water service is interrupted. Also refer to Division 1.

G. Painting: Do not paint vegetation for any reason.

1.11 LINES AND GRADES:

A. The Contractor shall provide his own lines and grades for the work required.

1. The Contractor shall determine where the site benchmark is located and set all grade stakes in reference to this point.

B. Grades: If present, protect and maintain grade stakes and location stakes until removal is acceptable to Landscape Architect and all parties involved in this project. If grade stakes are not present, establish grade stakes to ensure that grades shown on the Drawings are being met. See Section 31 22 00.

1.12 ACCEPTANCE AND MAINTENANCE:

A. Request for Acceptance: In writing, request Landscape Architect's inspection for acceptance at least 10 days in advance of preferred inspection date. Do not request inspection for acceptance until work is 100% complete (not including maintenance) and in compliance with the Contract requirements.

1. Partial Acceptance: Acceptance of partial areas or portions of the total work may be granted, at the Owner's option, if the area to be inspected for acceptance is large, well defined, and easily described. The Owner and Landscape Architect are not obligated to provide partial acceptance of the work.

B. Plant and Tree Maintenance: Begin maintenance immediately after planting. Provide complete maintenance and service as required to promote and maintain healthy growth including, without limitation, watering, and per the Owner’s specifications, weeding, fallen leaf removal, treating for insects and disease, resetting plants to proper grade and upright position, and other operations and maintenance work. Throughout the maintenance period, restore planting saucers and mulch, and keep mulch beds weed free. Tighten and adjust guy wires, stakes, and deadmen as necessary to keep trees in vertical position. Restore and replace damaged trunk wrappings.

1. Maintenance Period: Completely maintain plants and trees for three (3) years from the date of Final Acceptance for the landscape portion of the project.

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2. Watering: Flood all plants during the construction and maintenance periods at least twice each week. If present and operational, coordinate programming of irrigation system to meet watering needs. If irrigation system is not operational, provide hand watering as needed to maintain healthy growth. At each watering, thoroughly saturate the soil around each tree and shrub. If sufficient moisture is retained in the soil as determined by the Owner, the required watering may be reduced. Trees will require a minimum of twenty gallons of water for each watering. Shrubs will require a minimum of ten gallons of water for each watering.

3. Application of insecticides and herbicides is expressly prohibited. Confer with Owner for methods of controlling insect infestation or disease.

1.13 WARRANTY:

A. Warranty: Provide written warranty agreeing to remove and replace work that exhibits defects in materials or workmanship for the specified periods. "Defects" is defined to include, but is not limited to, death, unsatisfactory growth, disease, insect infestation, abnormal foliage density, abnormal size, abnormal color, failure to thrive, and other unsatisfactory characteristics.

1. Warranty Period for Plants: One (1) year from end of the first year of the required maintenance period.
2. Replacement: Replace defective work with new material of same species, size, character, and quality of originally accepted work. With each replacement material, provide a new one (1) year warranty for the replacement work. If a replacement is unacceptable during its one year warranty, the Contractor shall provide another replacement or, when approved by Owner, equivalent cash payment.
3. Replacement Planting Seasons: Replacement for plant warranty work shall comply with the Planting Seasons specified herein.

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4. Owner's Responsibilities and Warranty Exclusions: The Owner is responsible for maintaining the work in reasonable compliance with the Contractor's maintenance regiment and reducing impacts from non-related or adjacent construction impacts/activities. The Contractor's warranty shall exclude problems due to improper or inadequate maintenance performed by the Owner or vandalism.
    a. During the warranty period, the contractor shall visit the site at regular maintenance intervals to review the conditions of the accepted work and submit maintenance visit reports to the Owner. The Contractor shall submit in writing to the Landscape Architect and Owner his/ her concerns regarding the Owner's maintenance practices and/ or any vandalism along with these regular reports. The content of this notice shall include a list of specific plants involved, the presumed problem, and a method of remedy for the problem(s) cited. The Owner shall make reasonable efforts to correct the problems cited by the Contractor but the Owner shall not be held responsible for the Contractor's defects in materials or workmanship that result in decline or death to plants. Failure of the Contractor to make the required review and timely report of such occurrences to the Owner and Landscape Architect during the warranty period shall negate the Contractor's ability to make a claim against the Owner for negligence of maintenance.

PART 2 - PRODUCTS

2.01 PLANTING SOIL AND TOPSOIL

A. Refer to Sections 31 22 00 & Section 31 23 00.

2.02 PLANT SOURCES

A. The Contractor shall submit to the Landscape Architect any questions regarding the source of any plant.

B. Contract growing of some plants may be required. The Contractor shall identify plant species in need of contract growing within four weeks of beginning work.

2.03 DIGGING SEASON

A. Plants shall be delivered freshly dug. Plants that have been pre-dug the previous season shall not be accepted.
    a. Spring Dig: Plants shall be dug as early as possible and as determined by the nursery owner, and no later than bud break.

b. Do not transport plants within 14 days after bud break.

2. Fall Dig: Plants shall be dug following leaf senescence.
   a. Fall Dig Hazard: Many species of trees or shrubs are considered “Fall Transplanting Hazards” by the nursery trade. Fall Transplanting Hazards are to be transplanted only during the spring digging season. The Contractor shall identify Fall Transplanting Hazards from the plant schedule, and factor the proper handling of these trees into the overall sequencing of construction. The Contractor shall notify the Landscape Architect of any conflicts arising from this analysis of the plant list. Fall Dig Hazards are listed on the Drawings.

2.04 SELECTION AND INSPECTION OF PLANTS

A. The Landscape Architect will review plant materials at the nursery source and/or at the Landscape Architect’s discretion, through photographs provided by the Contractor prior to selection. All plants brought to the site will have been reviewed in this manner. Plants that do not have the Landscape Architect’s approval shall be removed from the site.

1. Tagging: At least three weeks prior to the expected planting date, request, in writing, the Landscape Architect’s inspection of plant material at the nursery. Provide photographs beforehand if requested by the Landscape Architect.
   a. The Landscape Architect will make his/her own travel arrangements to the nursery.
   b. Seals placed on the selected plants at the nursery shall remain on the plants until Final Acceptance of the work.
2. The Landscape Architect’s basis of plant selection will include:
   a. Conformance with specified genus, species, variety, size, form, rootball and quality.
   b. The visual characteristics of the plants.
   c. Plant health.
   d. Adherence of the nursery to cultural practices and maintenance procedures that are at or above industry standard.
3. On-Site Inspection:
   a. The Contractor shall permit the Landscape Architect to inspect plants upon their arrival to the project site and at any time prior to planting. The Landscape Architect will inspect the plant materials for size and condition of rootballs and/or root systems, insects, injuries, defoliation, wind burn and latent defects. The Contractor shall remove plant material that is unsatisfactory or defective and replace the plants at no additional cost to the Owner.
   b. The Landscape Architect may reject a specific nursery source and associated plants if he/she determines before, during or after receipt of plants, any of the following:
      1) The nursery stock does not meet health standards set forth herein, including disease and infestation.
      2) The nursery stock does not meet the requirements of the Landscape Architect’s basis of selection as stated herein.
      3) The nursery cannot supply the specified plant(s) or an acceptable substitute cultivar or species.

B. Substitutions

1. In the event that the Contractor is unable to obtain the plant material specified, either because of unavailability or the failure of the plant material to meet the quality requirements of this Section, the Contractor shall provide substitute plants of equal size, quality and value to the plant originally specified. The substitute plants shall conform to

all requirements of this Section and shall not be considered accepted without the written consent of the Owner.

2.05 PLANT MATERIALS:

A. General: Furnish specimen nursery-grown plants of genus, species, and cultivar specified complying with ANSI Z60.1, with healthy root systems well provided with fibrous roots developed by transplanting or root pruning. Provide well-shaped, fully branched, healthy, vigorous stock free of disease, insects, eggs, larvae, and defects such as knots, sun scald, injuries, abrasions, and disfigurement. All parts of the plant shall be moist and show active green cambium when cut. Plants will be densely foliated when in leaf.

B. Grade: Provide plants of specified height, caliper, sizes and grades complying with ANSI Z60.1 for type of plants required.

1. Larger Stock: Plants larger than required may be used if approved by Landscape Architect, if root ball is proportionately larger, and if there is no change in Contract Price.
2. Undersize Stock: Not more than 10% of plants smaller than required may be used if approved by Landscape Architect, if equal number of oversize plants are provided to make average size equal or greater than size required, and if undersize plants are larger than the average size of the next lowest size grade.

C. Hardiness: Provide plant stock certified to have been grown within hardiness Zones 2 through 8 as established by the 2012 USDA Plant Hardiness Zone Map. Plants without this certification will be rejected.

D. Plant Character: All plants, except custom grown plants as shown on the Drawings, shall be typical of their species or variety and shall have a normal habit of growth and be legibly tagged with the proper name. Form and size shall comply with ANSI Z60.1.

1. Deciduous Trees: Single-stem trees with straight trunk, well-balanced crown, and intact leader, of height and caliper indicated.
   a. Multistem Trees: Branched or pruned naturally according to species and type, with relationship of caliper, height, and branching according to ANSI Z60.1.
2. Deciduous Shrubs: Deciduous shrubs with not less than the minimum number of canes required by and measured according to ANSI Z60.1 for type, shape, and height of shrub.
3. Evergreen Trees and Shrubs: Well-balanced evergreen plants, of type, height, spread, and shape required, complying with ANSI Z60.1.
4. Broadleaf Evergreens: Well-balanced broadleaf evergreens, of type, height, spread, and shape required, complying with ANSI Z60.1.
5. Groundcover and Vines: Provide groundcover and vines of species indicated, established and well rooted in pots or similar containers, and complying with ANSI Z60.1.
6. Perennials: Provide healthy, field-grown plants from a commercial nursery, of species and variety shown or listed.
7. Bulbs: Bulbs shall be Top Size for species specified as defined by ANSI Z60.1, firm of flesh, free from decay and disease. Bulbs shall be certified as being grown for the season in which they will be installed.

E. Trunk: The height of the trees (measured from the crown of the roots to the tip of the top branch) shall be not less than the minimum size designated. The trunk of each tree shall be a single trunk growing from a single un-mutilated crown of roots. No part of the trunk shall be conspicuously crooked as compared with normal trees of the same variety. The trunk shall be free from sunscald,

frost cracks, or wounds resulting from abrasions, fire or other causes. No pruning wounds shall be present having a diameter exceeding one inch and such wounds must show vigorous bark on all edges. Plants shall not be pruned prior to delivery. No trees with double-leaders or twin-heads shall be acceptable. The Contractor shall reject such plants at time of delivery by the nursery/supplier unless such plants were selected by the Landscape Architect as indicated by tags and seals.

F. Rootballs:

1. General:

a. The diameter and depth of rootballs shall be sufficient to encompass the fibrous and root feeding system necessary for the healthy development of the plant in accordance with ANSI Z60.1., or the minimum rootball diameter shown, whichever is larger.

1) If the root flare is buried 2” or more, provide a larger diameter or greater depth rootball to compensate for the buried root flare, as the soil overburden shall be removed prior to planting, which effectively reduces the size of the rootball.

b. No plant will be accepted when the ball of earth surrounding its roots has been cracked or broken prior to or during the process of planting or after the burlap, staves, ropes or platform required in connection with its transplanting have been removed. The rootballs shall remain intact during all operations.

c. Girdled Roots: Inspect root crown for girdling roots. Inspection for girdled roots shall be done at the nursery to the extent possible. If girdled roots are not visible at the nursery and are revealed before acceptance, any plant with a girdled root over 1/2” shall be rejected.

G. Balled and Burlapped: All plants to be moved balled and burlapped shall be moved with the root systems as solid units with balls of earth firmly wrapped with burlap, firmly held in place by a stout cord and drum lacing, or wire basket. Burlap for containing rootballs shall be untreated, made from biodegradable natural fibers.

H. Container Stock: Container stock shall have a full container of well developed root system. Plants loose in the container are not acceptable. The surface of the root zone shall be free of circling or kinked roots. Staked plants must be self supporting when unfastened from the stake. When removed from the container, the root ball shall be free from numerous circling roots. Large matted roots at the sides or bottom of the container will not be accepted. Container grown plants may be accepted for balled and burlapped material if approved by Landscape Architect.

I. Handling of Plants: Plants delivered by truck and plants requiring storage on site shall be properly wrapped and covered to prevent wind-drying and desiccation of branches, leaves and buds; plant balls should be firmly bound, unbroken, reasonably moist to indicate watering prior to delivery and during storage, tree trunks shall be free from fresh scars and damage in handling and all bare root material shall be heeled in if not planted within 10 hours of delivery to site. All seed mixes shall be stored in a cool, dry location.

2.06 MULCHES:

A. Well Rotted Leaf Mulch: Provide partially decomposed minimum six month aged finely shredded leaf mulch with dark brown color and free of weeds, excessive fine particles, stringy material, and chunks of wood or sticks thicker than 1/4”. Provide leaf mulch approved by Landscape Architect.

2.07 STAKING AND GUYING MATERIALS

A. Extent of staking and guying shall be reviewed with the Landscape Architect and Owner prior to installation.

B. Stakes: Provide 2” diameter un-peeled cedar staked for all balled and burlapped trees, 3 per tree. Tie shall be “ArborTie.”

1. ArborTie Manufacturers
   a. DeepRoot Green Infrastructure, 5030 Washington Street, San Fransisco, CA, Tel: 800.458.7668, www.deeproot.com
   b. Forestry Suppliers Inc., www.forestry-suppliers.com
   c. Gempler’s, www.gemplers.com
   d. Or approved equal.
2. Tree Protective Collar: Nylon of color indicated and approved by Architect.

2.08 PLANT ANCHORING SYSTEM:

A. Rootball anchoring system shall be as manufactured by Platipus Anchors, Inc., 2008 Garner Station Boulevard, Raleigh, NC 27603, Tel: 866.752.8478, or approved equal. System shall be Platipus rootball fixing system, including Plati-Mat, Model # RF2RP.

1. Work with manufacturer to confirm the correct size of anchoring system for specified trees.

2.09 ANTI-DESSICCANT:

A. Provide emulsion type, film forming agent designed to permit vapor transmission but retard excessive moisture loss. Provide “Vapor Guard” or Landscape Architect’s approved equivalent.

1. Use anti-desiccant only with the approval of the Landscape Architect.

2.10 MISCELLANEOUS MATERIALS:

A. Plywood: Provide 3/4” Grade C or better plywood for use as planking when driving vehicles or equipment over lawns or areas to be planted. The driving of vehicles over planted areas is expressly prohibited.

PART 3 - EXECUTION

3.01 EXAMINATION

A. The installer shall examine previous work, related work, and conditions under which this work is to be performed and notify the Contractor in writing of all deficiencies and conditions detrimental to the proper completion of this work. Beginning work means installer accepts substrates, subgrades, previous work, and conditions.

3.02 PREPARATION:

A. Pre-Installation Examination Required: The Contractor shall examine previous work, related work, and conditions under which this work is to be performed and notify Landscape Architect in writing

of all deficiencies and conditions detrimental to the proper completion of this work. Beginning work means Contractor accepts substrates, previous work, and conditions. The Contractor shall not place any planting soil mixtures until all work in adjacent areas is complete and accepted by the Landscape Architect.

B. Concealed Conditions: Notify Landscape Architect before planting when below grade or on-structure conditions detrimental to proper plant growth are encountered. Do not proceed with planting without specific written instructions from the Landscape Architect. At the Landscape Architect's direction and at no additional expense to the Owner, plants shall be relocated to avoid the obstruction.

C. Deliver materials and plants only after preparations for planting have been completed and accepted, including but not limited to: planting soil/topsoil, rough grading, utilities, decompaction or remediation of soils. The Landscape Architect will determine when the site is acceptable for planting.

D. Layout and Approval: Layout and stake individual trees and obtain Landscape Architect's approval before starting installation. After staking is accepted, set plants in place for final review and acceptance by the Landscape Architect. Contractor shall not stake plant locations for Landscape Architects approval until proper subgrade, drainage, and topsoil preparations have been completed. Make revisions and adjustments as directed by Landscape Architect.

3.03 PLACEMENT OF PLANTING SOIL / TOPSOIL:

A. Refer to Sections 31 22 00 and 31 23 00.

3.04 HANDLING OF PLANTS

A. Protect bark, branches, and root systems from sun scald, drying, sweating, whipping, and other handling and tying damage. Do not bend or bind-tie trees or shrubs in such a manner as to destroy their natural shape.

B. Provide a double tarp protective covering over exterior plants during transport.

C. Do not drop exterior plants during delivery.

D. Do not loosen drum-lacing nor remove container-grown stock from containers before time of planting.

E. Do not move trees if rootballs are saturated.

F. Handle planting stock by supporting the rootball or container.

3.05 TEMPORARY STORAGE OF PLANTS

A. Storage – General

1. For plants stored on or off-site for more than 24 hours, the Contractor shall keep a log that records dates of watering.
2. The Contractor shall fully inspect and maintain plants for the entire duration of the storage period.

3. All stored plants shall remain the property of the Contractor and shall be replaced in kind to meet the standards defined herein for healthy plants and the character and habit defined herein. The Landscape Architect shall be the sole evaluator of whether replacement plants match the originally stored plants.

4. No plant shall be stored more than four weeks without written acceptance by the Landscape Architect.

B. Storage of plants less than one week:

1. If planting is delayed more than six hours after delivery of plants to the site, the Contractor shall adhere to the following practices:
   a. Set plants in shade, protect from weather and mechanical damage, and keep roots moist.
   b. Store plants upright with room between rootballs.
   c. Closely monitor plants for sufficient root moisture.
   d. Store all plant materials in a secure and clean location, free from conditions that would be harmful and/or deleterious to the immediate or long-term health of the trees.

C. Storage of plants more than one week:

1. The Contractor shall store plants at a location mutually agreed upon by the Contractor and Landscape Architect.

2. Space plants sufficiently apart to prevent damage or death to branches and leaves. During all seasons, set balled stock upright and plumb on firm ground and cover the ball with fully aged and decomposed wood mulch or other material acceptable to the Landscape Architect

3. During the growing season, stored plant material shall be watered and the rootballs kept moist with an automatic drip irrigation system to prevent drying out. Mist plants several times a day as necessary to reduce transpiration in sunny or windy locations.

4. During the dormant season, rootballs shall be insulated against freezing and cold weather damage. Plants shall be protected from wind and ice damage.

5. During the storage period, inspect all plants for pests and diseases and, if found, have them evaluated by an arborist certified in the state where the project is located.
   a. Before proceeding, report on the presence of any diseases or pests.
   b. Before proceeding, report on issues and recommended treatment to the Landscape Architect for review and approval.
   c. Whenever possible, select and use organic treatments.
   d. Isolate trees with diseases or pests and remove and replace if the Landscape Architect determines that the plants are unusable.

3.06 PLANT LAYOUT

A. Horizontal Layout: The plant locations shown on the Drawings are approximate. The Contractor shall layout the final location of individual plants by stake or flag and obtain the Landscape Architect's approval of locations before starting installation. After staking is accepted, set plants in place for final review and acceptance by the Landscape Architect. The Contractor shall make revisions and adjustments as directed by the Landscape Architect.

1. Contractor shall not stake plant locations until proper subgrade, drainage, and subsoil layers are installed.

2. Indicate the species and size of plant on the stake or flag.

B. Vertical Layout: Set the elevation of trees through the use of string lines or by instrumentation. Demonstrate to the Landscape Architect through the use of stakes and string that trees have been set at the correct elevation prior to completing planting and installing topsoil, if requested.

3.07 PLANTING WOODY PLANTS

A. General

1. Sequence of Planting: Plant trees and shrubs after the subgrade has been accepted and concurrently with the horticultural subsoil planting soil layer unless otherwise approved by the Landscape Architect. Complete landscaping work as quickly as possible on portions of the site as they become available for landscaping.
2. If plants are installed in planting pits, scarify sides of pits before placing trees.
3. Grade stakes: If present, protect and maintain grade stakes and location stakes until removal is acceptable to the Landscape Architect and all parties involved in this project. If grade stakes are not present, establish grade stakes to ensure that grades shown on the Drawings are being met.
4. Painting: Do not paint vegetation for any reason.

B. Rootball and Rootflare

1. Rootball Pedestals: Provide a rootball pedestal composed of subgrade fill immediately beneath the ball or root mass. Pedestal shall provide the relationship to finish grade described below and prevent settlement of the plant. Compact pedestal to 95% Standard Proctor.
2. Identifying and Exposing the Root Flare: Prior to setting the height of the rootball pedestal, the Contractor shall remove burlap and twine from the top of the rootball and inspect each plant to determine if the trunk flare is buried within the rootball. If buried, the Contractor shall expose the trunk flare by removing excess fill on top of rootball, taking care not to damage the bark or roots while removing the soil overburden. Adventitious roots and girdling roots shall be removed with sharp pruners. Adjust the rootball pedestal to position the trunk flare 2”-3” higher than the proposed finished grade.
3. Wire Baskets: Once set, completely remove top one-third of wire basket. For the remaining bottom two-thirds of the wire basket, cleanly cut each tier of horizontal wires making one cut centered between each set of vertical wires.
   a. Burlap: Completely remove top one-third of burlap.
4. Drum lacing and Burlap: Once set, remove top one-third of lacing and burlap.
5. Containerized plants: Completely remove container. Cut out container with a sharp blade if container does not readily separate from the rootball.
6. Scarification of Balled and Burlapped Plants: The Landscape Architect will examine the exposed rootball and determine if the Contractor shall scarify the sides of the rootball. Scarification shall result in no additional expense to the Owner.
7. Scarification of Containerized Plants: The Contractor shall scarify the rootballs of container plants with a sharp blade 2” in length. Rest the plant on its side and scarify an ‘X’ on the bottom of the root mass. Then make vertical cuts that are the full height of the rootball every 3” o.c of the full circumference.
8. Rootballs shall be kept in a moist, but not wet, condition. Protect rootballs from damage due to sun and wind. Contractor shall strictly limit the time between exposing the rootball and backfilling. Protect exposed rootballs with burlap or other shading device until backfilled.

C. Placement of Planting Soil / Topsoil at Woody Plants: Place planting soil / topsoil to finish grade as indicated in the Drawings.

1. Maintain at all times during the planting operations at least one stockpile of each approved type of plant soil or topsoil.
2. Planting soil shall be in full contact with the rootball, with no voids or air pockets. Where burlap is present, burlap shall be tightly pressed between backfill and rootball. Folded or bunched burlap will create an obstruction to backfill and rootball contact and shall be removed.
3. Backfilling of Tree Pits: Backfill with planting soil / topsoil in 6” layers. Handtamp each layer to eliminate voids and air pockets before placing subsequent layers. Continue until backfill has reached finish grade shown on the Drawings.
4. Watering Dish and Mulch: Construct a watering dish of topsoil / planting soil at the limits of excavation as shown to promote water infiltration into the root zone. Hand-tamp edges of topsoil watering dish to be firm and withstand hose pressure. Cover watering dish with mulch, leaving a 4” gap between mulch and the trunk. .

D. Watering:

1. Flood all plants with water twice within the first 24 hours after planting. Take care to avoid saturating adjacent soils where planting operations are ongoing. Monitor water pressure. Displacement of soil materials including watering dish by watering shall not be acceptable.

E. Plant Anchoring System: Install tree stakes immediately after planting to maintain trunk plumb.

3.08 PLANTING POTTED HERBACEOUS PLANTS

A. The Contractor shall scarify the rootballs of container plants. Using a sharp knife, make vertical cuts the full height of the rootball at a depth of 2” and every 3” o.c.

3.09 PLANTING HERBACEOUS PLUGS

A. Install the plug so the stem base is at or slightly above finish grade. Plant plugs fully into planting soil, not mulch.

B. Install plugs to their full depth. A “J-Root” installation shall not be acceptable.

C. Tamp each plug in place so that it is firmly seated in the soil, with no air pockets.

D. In areas that receive periodic inundation, installation to be performed with a crossed sod staple. Extent of this installation is to be reviewed with the Landscape Architect in the field during planting layout.

3.10 SOIL DIAGNOSTICS DURING THE MAINTENANCE PERIOD

A. If plants exhibit unsatisfactory growth during the maintenance period, perform soil testing for chemical properties, compaction and infiltration rates. Adhere to Landscape Architect’s recommend remediation. Remediation may include, but are not limited to, soil amendments, Liquid Biological Amendment treatment, or soil decompaction.

3.11 PLACEMENT OF MISCELLANEOUS MATERIALS:

A. Fertilizer: Apply organic fertilizer as required by soil analysis and approved by Landscape Architect. Refer to Section 31 25 00.

3.12 FINE GRADING:

A. Prior to fine grading, Contractor shall verify that the rough grading, under drainage system, and planting soil / topsoil have been accepted.

B. Fine Grading: Set sufficient grade stakes for checking the finished grades. Stakes must be set at the bottom and top of slopes and the centers of plant beds. Grades shall be established which are accurate to 1/10th of a foot either way. Connect contours and spot elevations with an even slope. All grading will insure drainage away from structures.

1. After topsoil mix has been spread, it shall be carefully prepared by scarifying and hand raking. All large stiff clods, lumps, brush, roots, stumps, litter and other foreign matter, and stones over one inch in diameter shall be removed from the topsoil. Topsoil shall also be free of smaller stones in excessive quantities as determined by the Landscape Architect.
2. Fine grade planted areas to smooth, free draining, even surfaces with fine texture. Roll, rake and drag areas to flatten ridges and fill depressions, except as select areas shown on drawings. Control moisture content to maintain optimum conditions, but do not create a muddy condition.
3. Rolling - Typical: Roll the entire area with a hand roller weighing not more than 100 pounds per foot of width. During the rolling, all depressions caused by settlement of rolling shall be filled with additional topsoil and the surface shall be regraded and rolled until presenting a smooth and even finish to the required grade or to the shapes and configurations as shown on the details.
4. Maintenance and Restoration: Restore prepared areas to specified condition if eroded, settled, or otherwise disturbed after fine grading and prior to lawn planting.

3.13 TRAFFIC ACCESS:

A. The Contractor is strictly prohibited from tracking or driving over newly planted areas.

B. Restore area disturbed by planting to achieve full healthy growth as approved by Landscape Architect. Vehicular traffic routes must conform to pre-approved routing of construction operations.

3.14 TEMPORARY EROSION CONTROL

A. Refer to Section 31 25 00.

3.15 CLEANING, PROTECTION AND EXCESS MATERIALS:

A. Clean pavements and keep work areas clean and neat during landscape work. Remove all debris from site.

B. Provide temporary protection, as specified and as needed to protect drainage system, restrict traffic, to permit growth to develop, to protect completed work, and to ensure work is without damage or deterioration at time of final acceptance. Remove and replace damaged landscape work prior to acceptance.

1. Protection of Drainage System: Protect existing drainage protection system at all drain inlets to prevent silt, materials or debris caused by planting operations from entering the drainage system. If drainage protection system is not present, establish erosion control measures. Refer to Section 31 25 00.
2. Excess Planting Soil / Topsoil and Materials: remove the excess planting soil / topsoil and materials from the site at no additional cost to the Owner.

C. Tags: Remove all nursery identification labels, seals and tags at final acceptance of the project.

Revised Addendum No. 2

3.16 SUPPLEMENTAL WATERING AND MAINTENANCE

A. Maintenance of the vegetation is vital to the success of the project. The items outlined in this specification are recommendations for achieving a successful establishment and management of the vegetation. Regular monitoring of all planting shall be conducted for three (3) full growing seasons following initial implementation.

B. The site visits shall be conducted regularly to ensure the successful establishment and vitality of the vegetation. Each visit shall be conducted by a qualified professional with adequate plant identification skills and who is also able to make recommendations regarding management of native plant communities and maintenance. The site inspector shall collaborate over the needed maintenance requirements for a given year with the City of Joliet and the Engineer. The preferred management schedule and & performance standards for all plant communities following initial installation is as follows:

1. Herbicide application: Contractor shall eradicate herbaceous noxious weed species. It is the responsibility of the contractor to protect the designed planting areas and areas outside of the project limits during execution of the work described in this section. The contractor shall restore all areas affected or disturbed by the work according to the approved plans and specifications at no additional cost to the owner. The contractor shall maintain copies at the project site of all current pesticide applicator's licenses, herbicide labels, and MSDS's (material safety data sheets) for all chemicals utilized during completion of the work. Herbicide shall be mixed and placed in containers away from any natural area, trees, shrubs, herbaceous or woody growth, or body of water. Herbicides shall not be transported to the work area in any container other than that used for application. Wick or spot application with rodeo or aqua neat: reed canary grass, teasel, buckthorn, thistles, sweet clover, and purple loosestrife present in the project vicinity should be treated directly with a 2% solution of rodeo or aqua neat. Best application period is just before or during the very earliest stages of flowering. Where large patches of target weeds are present it may be necessary to use a larger wick or broadcast unit. Several back-to-back treatments may be necessary to be effective in eliminating these noxious weeds.

2. Mowing: The contractor shall mow all lawn / turf areas at regular intervals during the maintenance period including mow strips at the perimeter of the native vegetation areas during the appropriate season. Contractor shall take action to protect all architectural surfaces, adjacent vegetation including the trunks and root flares of all trees, and signage or utilities within the project limits.

3. Prescribed Burning: Prescribed burning shall be performed for the native areas as described in Section 32 92 19. Contractor shall take steps necessary to protect all architectural surfaces, adjacent vegetation - including the trunks and root flares of all trees, and signage or utilities within the project limits.

C. The contractor shall provide the City of Joliet with a maintenance bond for a three (3) year period after the final acceptance date. The maintenance bond shall be in the amount of 10% of the total contract price. This work shall be measured for payment in ANNUAL. This work shall be paid for at the contract unit price per ANNUAL (YEARS) for SUPPLEMENTAL WATERING AND MAINTENANCE which price shall include all machinery, herbicide, permitting, labor, equipment.

END OF SECTION

SECTION 33 31 13
SEWERAGE PIPING

Revised Addendum **No. 2** 01/09/2019

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Provide underground sewer pipe materials and installation as shown on Drawings, specified herein, and as needed for a complete and proper installation of Storm and Sanitary systems.

1.02 REFERENCES

A. ASTM: American Society for Testing and Materials

B. AASHTO: American Association of State Highway and Transportation Officials

C. The work, materials, and methods of construction under this Section shall be in accordance with the “Standard Specifications for Water and Sewer Main Construction in Illinois”, 2009 edition, as jointly published by the Illinois Society of Professional Engineers, The Consulting Engineers Council of Illinois, The Illinois Chapter of the American Public Works Association, the Illinois Municipal League, and the Associated General Contractors of Illinois, and hereinafter referred to as the “Standard Specifications”.

1.03 SUBMITTALS

A. General:

1. Submit Product Data in sufficient detail to confirm compliance with requirements of this Section. Submit Product Data and Shop Drawings in one complete submittal package. Partial submittals are unacceptable.

B. Product data:

2. Manufacturer's specifications and other data needed to prove compliance with specified requirements.
3. Manufacturers recommended installation procedures.

C. Provide certification reports attesting that materials supplied meet referenced specifications

D. Calculations verifying pipe class, ASTM C76, or pipe D-Load, ASTM C655, and pipe floatation (for depths less than 6 feet), shall be furnished to Engineer prior to pipe manufacture.

E. Lining certification and installation guide.

F. Pipe layout/installation guide from manhole to manhole by pipe diameter and pipe class or D-Load, or pipe stiffness rating.

G. Pipe joint certification indicating compliance with 50 ft hydrostatic head rating.

H. Submit in accordance with Section 01 33 00.

I. Results of plant tests shall be included with shipment of materials, with two additional copies of each test result to be furnished to Engineer.

J. Documentation demonstrating compliance with Spec. Section 00 30 80 regarding the use of American iron and steel in the products being furnished under this Section.

1.04 QUALITY ASSURANCE

A. Pipe manufacturer shall have minimum of five (5) years experience manufacturing pipe in accordance with ASTM and AWWA Standard Specifications.

1.05 IEPA LOAN REQUIRED DOCUMENTATION – AMERICAN IRON & STEEL

A. Pursuant to the IEPA loan being used to finance the project, the CONTRACTOR and his/her suppliers shall comply with Section 436 of federal H.R. 3547, which are requirements regarding the use of American iron and steel products. These requirements apply to and are binding to the manufacturer of the products specified in this Section.

B. The manufacturer shall provide with the shop drawing submittal one (1) signed and dated original of the AIS Certification Letter (a blank copy of which is provided on page A-00 30 80-4 of this manual). Said letter shall demonstrate compliance with Section 436 of federal H.R. 3547.

PART 2 - PRODUCTS

2.01 GRAVITY SEWER PIPE STRENGTH DESIGN

A. All sewer pipe materials provided shall be designed in accordance with the following criteria:

1. Traffic Loading = HS-20 per AASHTO, Traffic impact = 30% for depths less than 5 feet.
2. Soil loading based upon depth and unit weight of 125 pounds per cubic feet.
3. Trenching and Bedding as per details shown in plans for pipe types and per Section 31 23 33.
4. Ground water table assumed to be at the surface.
5. Saturated soil weight for bouyancy calculations = 62.5 pounds per cubic feet.
6. Safety factor for pipe buoyancy calculations =1.3.

Revised Addendum **No. 2**

2.02 LESS THAN 24-INCHES (SANITARY)

A. Pipe: ASTM D3034, SDR 26. Use elastomeric gasket type (ASTM F477 and ASTM D3212). Gaskets for fittings and joints: provide minimum cross-sectional area of 0.20 square inches (ASTM F477).
B. Branch fittings shall be factor fabricated type, SDR 26.
C. Risers and service pipe and fittings: SDR 26, solid wall type (ASTM 3034)

Revised Addendum **No. 2**

2.03 DETENTION POND OUTFALL (STORM)

D. Pipe: ASTM D3034, SDR 35. Use perforated pipe where specified in plans. Use elastomeric gasket type (ASTM F477 and ASTM D3212). Gaskets for fittings and joints: provide minimum cross-sectional area of 0.20 square inches (ASTM F477).
E. Branch fittings shall be factor fabricated type, SDR 35.
F. Risers and service pipe and fittings: SDR 35, solid wall type (ASTM 3034)

Revised Addendum **No. 2**

2.04 SANITARY SERVICE PIPING 5'-0" AND LESS FROM BUILDING

A. 4-inches and Smaller: See Section 22 00 05.

PART 3 - EXECUTION

3.01 SURFACE CONDITIONS

A. Examine areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.02 FIELD MEASUREMENTS

A. Make necessary measurements in the field to assure precise fit of items in accordance with approved design.

3.03 INSTALLATION

A. Trenching and backfill for Work of this Section shall conform to Section 31 23 33 and pipe manufacturer's recommendations.

B. Location with respect to water supply piping:

1. Locate sewer at least 10 feet away, horizontally, from water supply main or service line, as measured from outside edges of pipe.
2. Where water lines cross under gravity sewer lines, a minimum vertical separation of 18 inches shall be maintained between top of water main and bottom of sewer. Water lines shall not cross under sewer lines.
3. Where water lines cross over gravity sewer lines, water main shall be at least 18 inches above sewer.
4. When these conditions are not met, contractor shall:

    a. Fully encase sewer pipe for a distance of ten feet on each side of crossing; or whenever sewer and water main are within eight feet horizontally.
    b. Use acceptable pressure rated pipe for sewer with no joint closer horizontally than five feet from crossing.
    c. Where concrete encasement is used, provide not less than 4 inch thickness around pipe and 6 inches at pipe joints.

C. Pipe laying:

1. Protect pipe during handling against shocks and free fall. Remove extraneous material from pipe interior.
2. Between manholes all gravity pipe shall be of same strength class and as shown on layout/installation guide.
3. Lay pipe by proceeding upgrade with spigot ends of bell-and-spigot pipe pointing in direction of flow.
4. Lay each pipe accurately to indicated line and grade, aligning so sewer has a uniform invert. Noticeable variations from true alignment and grade shall be considered sufficient cause for rejection of Work.
5. Continually maintain interior of pipe free from foreign material. Provide watertight plugs for open ends of pipe when laying not in progress.
6. Before making pipe joints, clean and dry all surfaces of pipe to be joined.
7. Use lubricants recommended by pipe manufacturer.

8. Place, fit, join, and adjust joints to obtain water tight seal.
9. Laying of Pipe in Cold Weather:

    a. Heat pipe and jointing material to prevent freezing of joints, as recommended by manufacturer.
    b. Do not lay pipe on frozen ground.
    c. Pipes with rubber gaskets or resilient type joints: Warm gasket or joint material to facilitate making proper joint.

3.04 TESTING AND INSPECTING

A. Do not allow or cause any work of this Section to be covered until after it has been inspected.

B. Test and inspect sewer installation in accordance with Section 40 05 10.

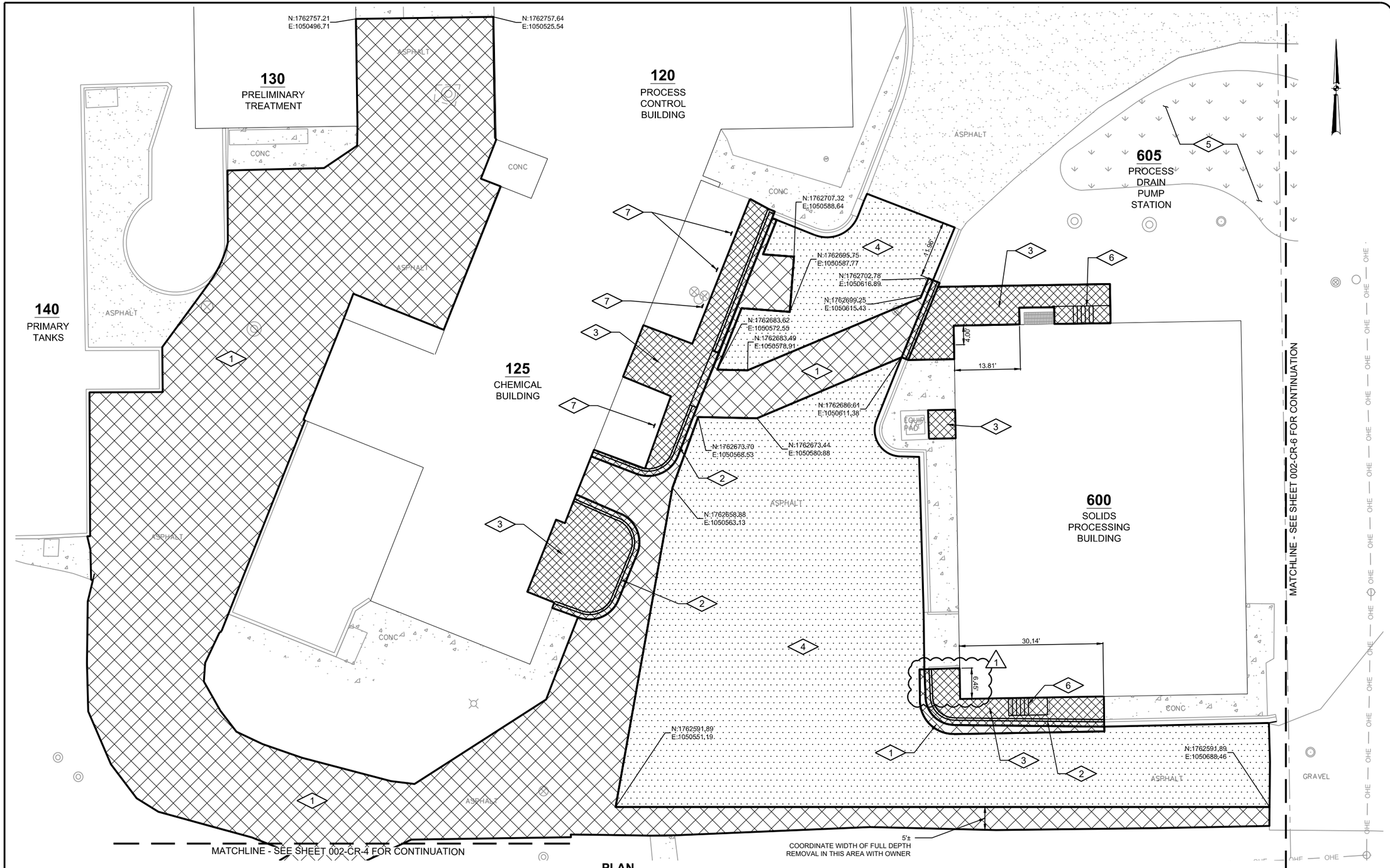
    1. Leakage Test

        a. Low Pressure Air Test, or
        b. Infiltration Test, if top surface of ground water is at least 2 feet above top of pipe for entire test length

    2. Deflection Test (Flexible Pipe Only)

        a. Perform not sooner than 30 days following installation.

END OF SECTION



PLAN

0 10'

PLAN NOTES:

1. REMOVE EXISTING ASPHALT PAVEMENT (FULL DEPTH). NEATLINE SAWCUT ALONG EDGES WHERE REMOVALS ABUT EXISTING ASPHALT TO REMAIN.
2. REMOVE CURB AND GUTTER. SAWCUT OR REMOVE TO NEAREST JOINT.
3. REMOVE CONCRETE SIDEWALK. SAWCUT OR REMOVE TO NEAREST JOINT.
4. EXISTING ASPHALT PAVEMENT TO BE RESTORED. C112
5. PROTECT EXISTING RAIN GARDEN.
6. REMOVE EXISTING METAL STAIRS.
7. REMOVE EXISTING PARKING SIGNS AND RETURN TO CITY OF JOLIET.

LEGEND

- FULL DEPTH ASPHALT PAVEMENT REMOVAL
- CONCRETE REMOVAL
- ASPHALT PAVEMENT RESTORATION
- EXISTING ASPHALT PAVEMENT TO REMAIN
- EXISTING CONCRETE TO REMAIN

Revision Number	Revision Description	Drawn By	Checked By	Date
01	ADDENDUM NO. 2	MLM	PMS	01/09/2019

Designed By	MLM
Drawn By	MLM
Checked By	PMS
Approved By	PMS
Filename	002CR05.dwg
Project No.	13320
Project Date	DEC 2018

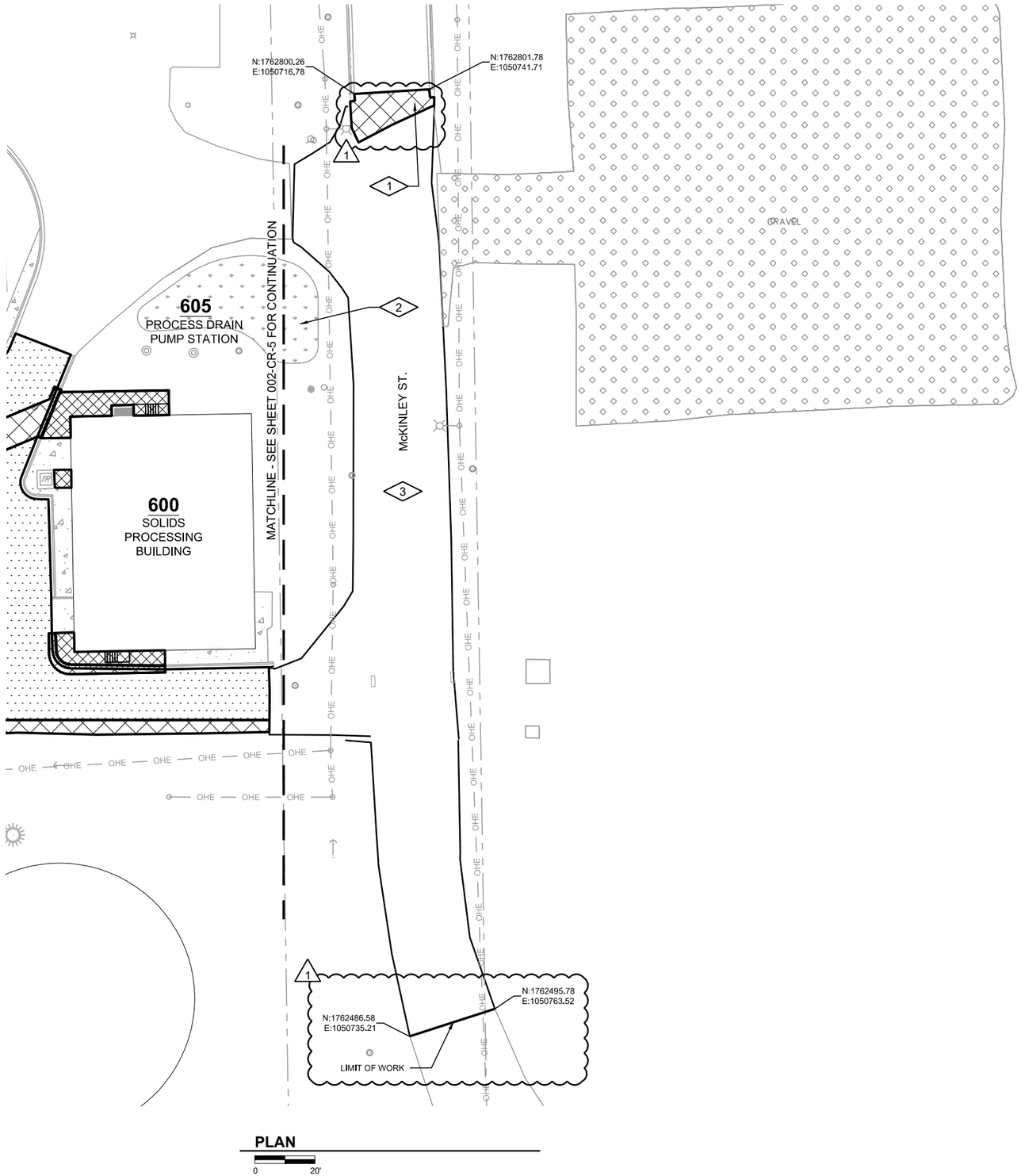
CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

SITE DEVELOPMENT
PLANT SITE DEMOLITION PLAN 4

DONOHUE

Sheet No. 20

Drawing No. 002-CR-5



PLAN

0 20'

PLAN NOTES:

1. REMOVE EXISTING ASPHALT PAVEMENT. NEATLINE SAWCUT ALONG EDGES WHERE REMOVALS ABUT EXISTING ASPHALT TO REMAIN. NOTE THAT EXISTING ASPHALT IN THIS AREA CONSISTS OF SURFACE COURSE ONLY.
2. PROTECT EXISTING RAIN GARDEN.
3. EXISTING GRAVEL ROAD TO BE PAVED. SEE 002-CF-8. REMOVE GRAVEL TO ACCOMMODATE NEW PAVEMENT SECTION.

LEGEND

- FULL DEPTH ASPHALT PAVEMENT REMOVAL
- CONCRETE REMOVAL
- ASPHALT PAVEMENT RESTORATION
- EXISTING ASPHALT PAVEMENT TO REMAIN
- EXISTING CONCRETE TO REMAIN

Revision Number	Revision Description	Drawn By	Checked By	Date
01	ADDENDUM NO. 2	MLM	PMS	01/09/2019

Designed By	MLM
Drawn By	MLM
Checked By	PMS
Approved By	PMS
Filename	002CR06.dwg
Project No.	13320
Project Date	DEC 2018

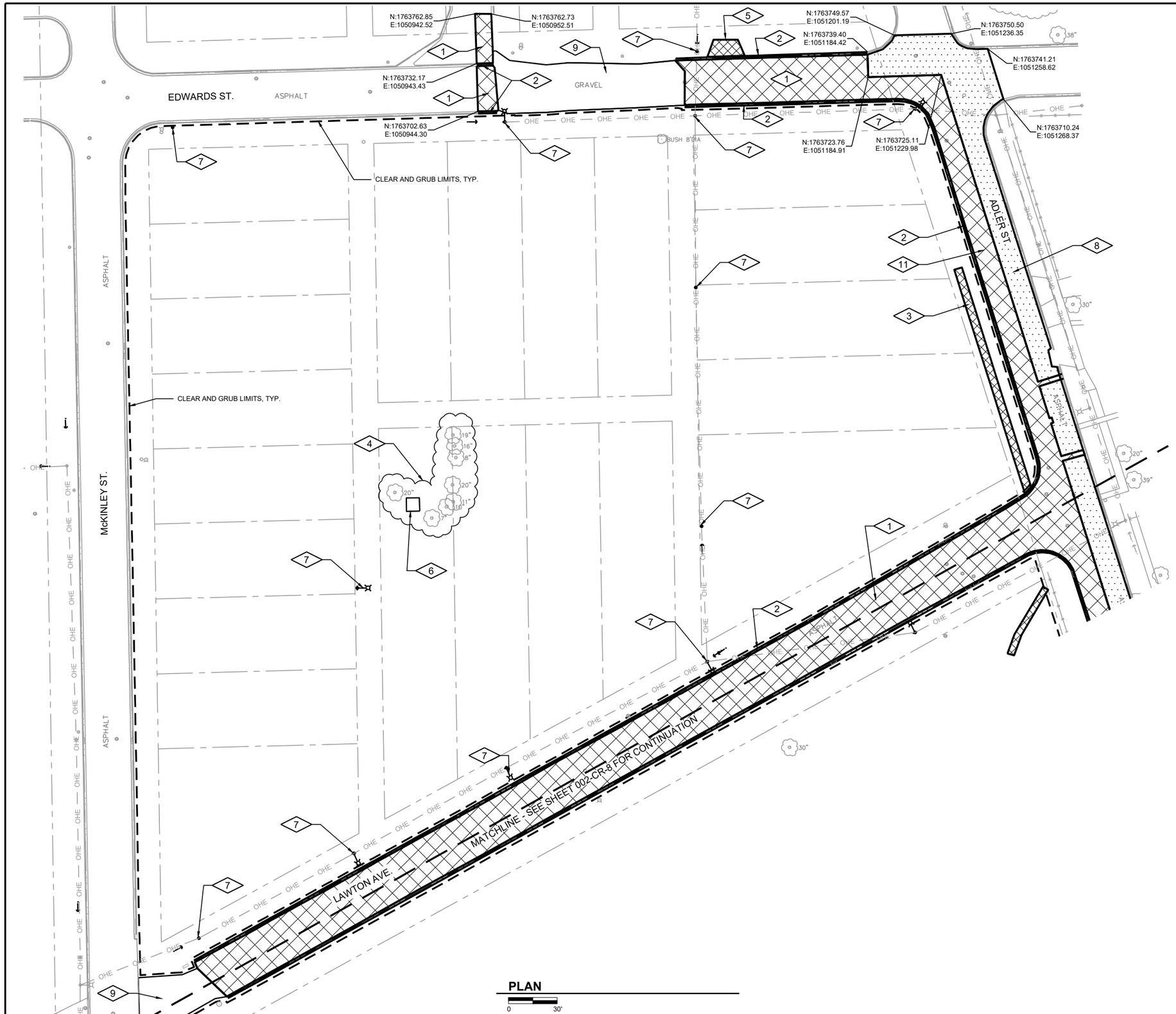
CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

SITE DEVELOPMENT
MCKINLEY ST DEMOLITION PLAN

DONOHUE

Sheet No. 21

Drawing No. 002-CR-6



GENERAL NOTES:

1. CLEAR AND GRUB WITHIN THE LIMITS SHOWN.
2. ADMINISTRATION BUILDING SITE (AREA BOUNDED BY MCKINLEY ST, EDWARD ST, ADLER ST, AND LAWTON AVE IS A FORMER RESIDENTIAL AREA. CONTRACTOR IS ADVISED THAT STRUCTURE FOUNDATIONS, RUBBISH, OR OTHER DEBRIS LEFT OVER FROM DEMOLITION OF FORMER SINGLE FAMILY HOMES ON THE SITE MAY REMAIN. IF ENCOUNTERED, CONTRACTOR SHALL REMOVE AND DISPOSE OF THESE ITEMS AT A SUBTITLE D LANDFILL. REMOVAL OF THIS MATERIAL WILL BE PAID ON A UNIT PRICE BASIS. REFER TO SECTION 01 22 00.
3. MISCELLANEOUS PAVING, FENCING, OR OTHER DEBRIS NOT SHOWN ON THIS DRAWING MAY EXIST ON THE ADMINISTRATION BUILDING SITE (AREA BOUNDED BY MCKINLEY ST, EDWARD ST, ADLER ST, AND LAWTON AVE). CONTRACTOR TO REMOVE ALL MISCELLANEOUS PAVING, FENCING, OR OTHER DEBRIS IN THIS AREA.
4. SEE 002-CR-10 FOR UNDERGROUND UTILITY REMOVALS IN THIS AREA.

PLAN NOTES:

1. REMOVE ASPHALT PAVEMENT. NEATLINE SAWCUT ALONG EDGES WHERE REMOVALS ABUT EXISTING ASPHALT TO REMAIN.
2. REMOVE CURB AND GUTTER.
3. REMOVE CONCRETE SIDEWALK.
4. REMOVE TREES.
5. REMOVE DRIVEWAY.
6. DEMOLISH EXISTING STRUCTURE. CONTRACTOR SHALL OBTAIN CITY OF JOLIET APPROVAL PRIOR TO DEMOLITION.
7. EXISTING UTILITY POLE TO BE REMOVED BY UTILITY OWNER.
8. EXISTING ASPHALT PAVEMENT TO BE RESTORED.
9. REMOVE EXISTING GRAVEL AS REQUIRED TO COMPLETE THE WORK.

LEGEND

- FULL DEPTH ASPHALT REMOVAL
- PAVEMENT RESTORATION
- CONCRETE REMOVAL
- CLEAR AND GRUB LIMITS

Revision Number	Revision Description	Drawn By	Checked By	Date
01	ADDENDUM NO. 2	MLM	PMS	01/09/2019

Designed By	MLM
Drawn By	MLM
Checked By	PMS
Approved By	PMS
Filename	002CR07.dwg
Project No.	13320
Project Date	DEC 2018

CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

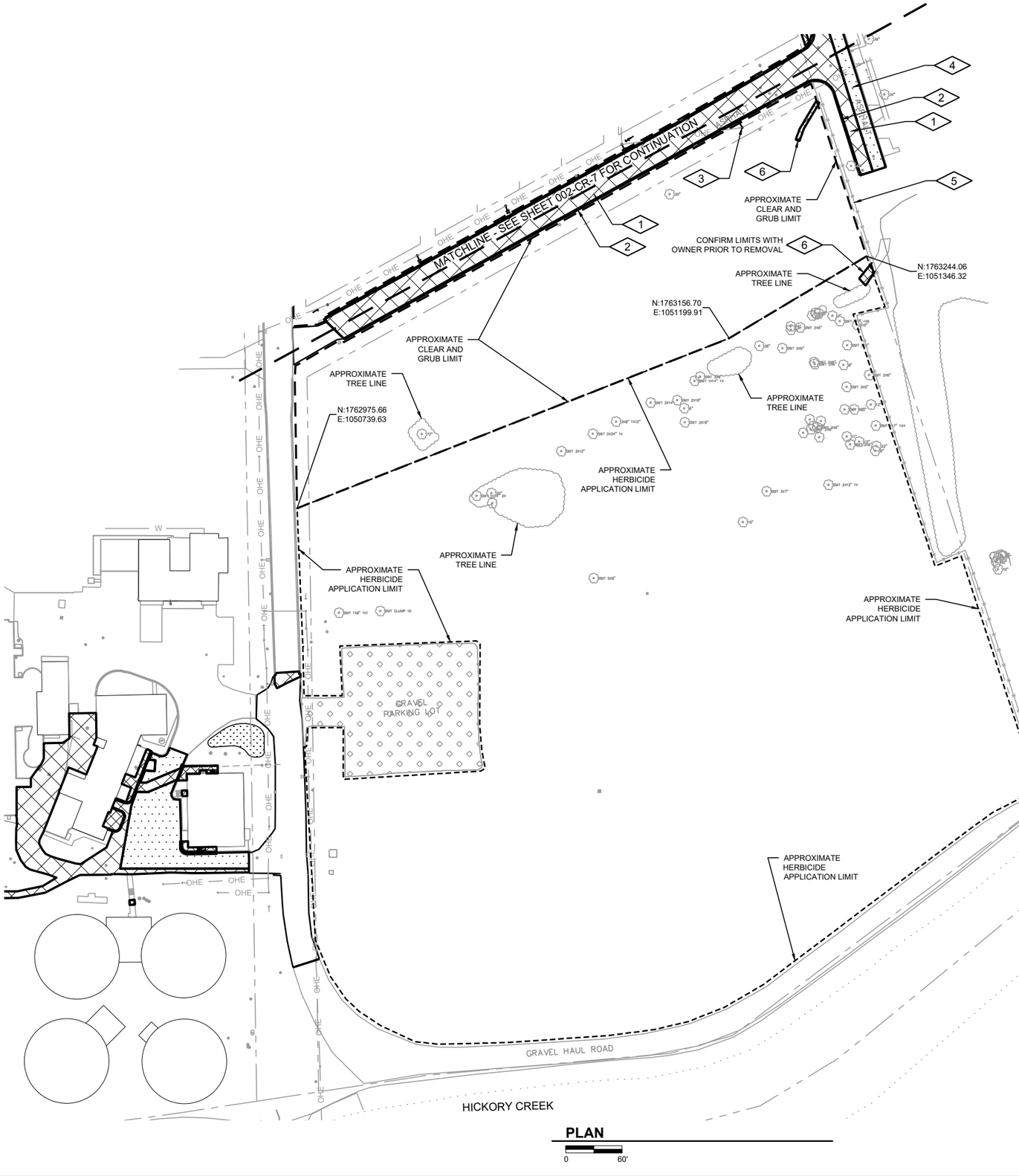
SITE DEVELOPMENT
STRUCTURE 900 SITE DEMOLITION PLAN

DONOHUE

Sheet No. 22

Drawing No. 002-CR-7

1



PLAN

0 60'

GENERAL NOTES:

1. CLEAR AND GRUB WITHIN THE LIMITS OF GRADING. APPROXIMATE CLEAR AND GRUB LIMITS SHOWN ON THIS SHEET. SEE 002-CG-3 FOR GRADING.
2. REMOVE ALL TREES WITHIN THE LIMITS OF WORK. OWNER MAY ELECT TO SAVE NOT MORE THAN 5 TREES. COORDINATE WITH OWNER PRIOR TO TREE REMOVAL.
3. APPLY HERBICIDE TO AREAS TO RECEIVE NATIVE PRAIRIE SEEDING. SEE LANDSCAPE DRAWINGS FOR SEEDING LIMITS. COORDINATE APPLICATION OF HERBICIDE WITH OWNER AND ENGINEER OR LANDSCAPE ARCHITECT. APPROXIMATE LIMITS OF HERBICIDE APPLICATION SHOWN ON THIS SHEET.
4. SEE 002-CR-10 FOR UTILITY REMOVALS.

PLAN NOTES:

1. REMOVE ASPHALT PAVEMENT. NEATLINE SAWCUT ALONG EDGES WHERE REMOVALS ABUT EXISTING ASPHALT TO REMAIN.
2. REMOVE CURB AND GUTTER.
3. EXISTING UTILITY POLE TO BE REMOVED BY UTILITY OWNER.
4. EXISTING ASPHALT PAVEMENT TO BE RESTORED.
5. EXISTING FENCE TO REMAIN.
6. REMOVE MISCELLANEOUS CONCRETE.

LEGEND

- FULL DEPTH ASPHALT REMOVAL
- PAVEMENT RESTORATION
- CONCRETE REMOVAL
- APPROXIMATE CLEAR AND GRUB LIMITS

Revision Number	Revision Description	Drawn By	Checked By	Date
01	ADDENDUM NO. 2	MLM	PMS	01/09/2019

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Project No.	13320
Project Date	DEC 2018

CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

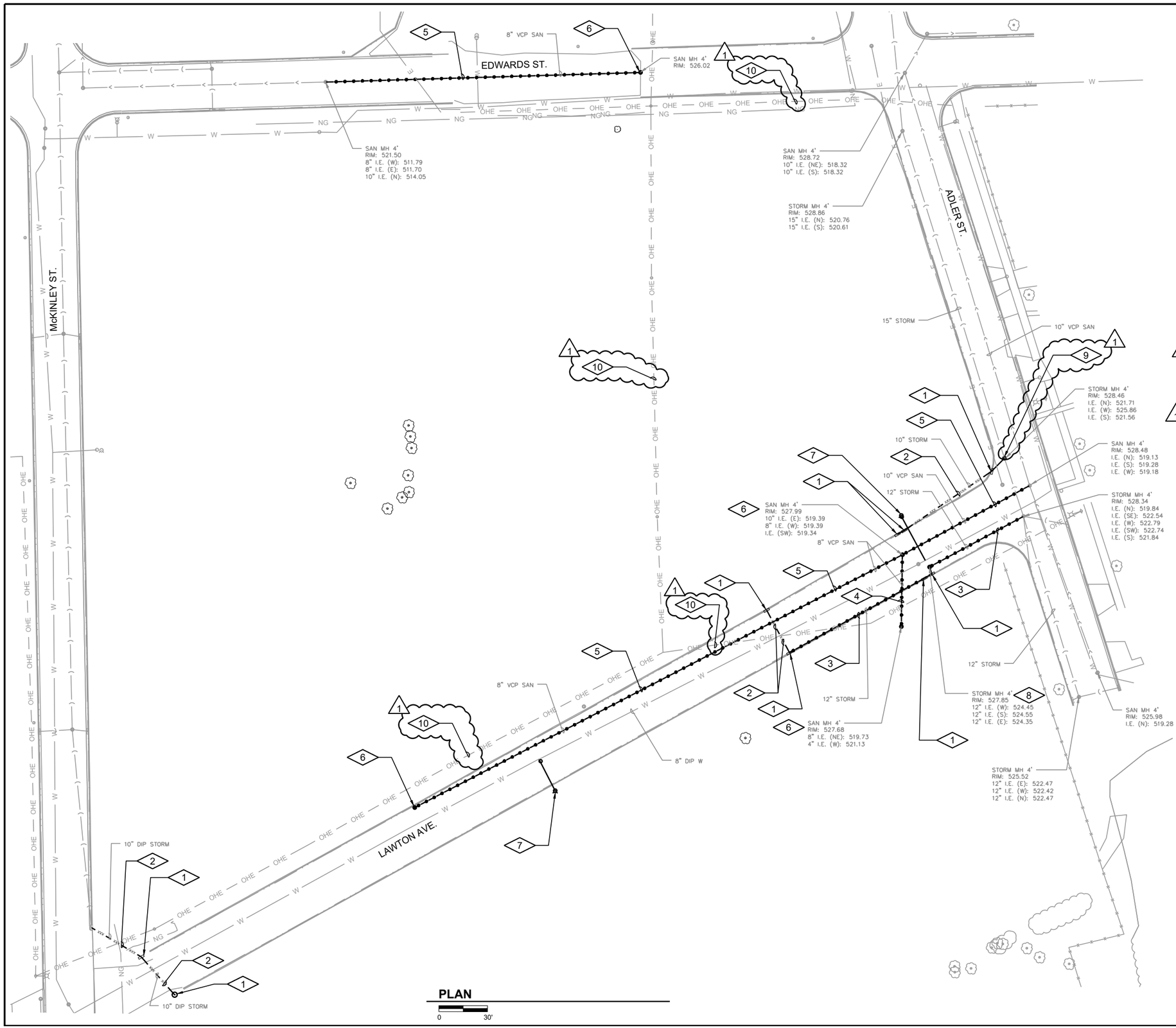
SITE DEVELOPMENT
PRAIRIE RESTORATION AREA DEMOLITION PLAN

DONOHUE

Sheet No. 23

Drawing No. 002-CR-8

1



PLAN

0 30'

PLAN NOTES:

1. REMOVE EXISTING STORM INLET.
2. REMOVE EXISTING STORM SEWER LATERAL.
3. ABANDON EXISTING STORM SEWER MAIN. C266
4. REMOVE EXISTING SANITARY SEWER LATERAL.
5. ABANDON EXISTING SANITARY SEWER MAIN. C266
6. ABANDON EXISTING SANITARY SEWER MANHOLE. C265
7. REMOVE EXISTING FIRE HYDRANT AND ISOLATION VALVE. REMOVE EXISTING WATER LINE FROM HYDRANT TO MAIN AND CAP WATER LINE AT MAIN.
8. ABANDON EXISTING STORM SEWER MANHOLE. C265
9. REMOVE STORM MANHOLE.
10. EXISTING OVERHEAD ELECTRIC LINES TO BE REMOVED. CONTRACTOR TO COORDINATE WITH UTILITY OWNER FOR REMOVAL.

LEGEND

- UTILITY REMOVAL
- UTILITY ABANDONMENT

Revision Number	Revision Description	Drawn By	Checked By	Date
01	ADDENDUM NO. 2	MLM	PMS	01/09/2019

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Project Date	DEC 2018

CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

SITE DEVELOPMENT
STRUCTURE 900 UNDERGROUND UTILITY DEMOLITION PLAN

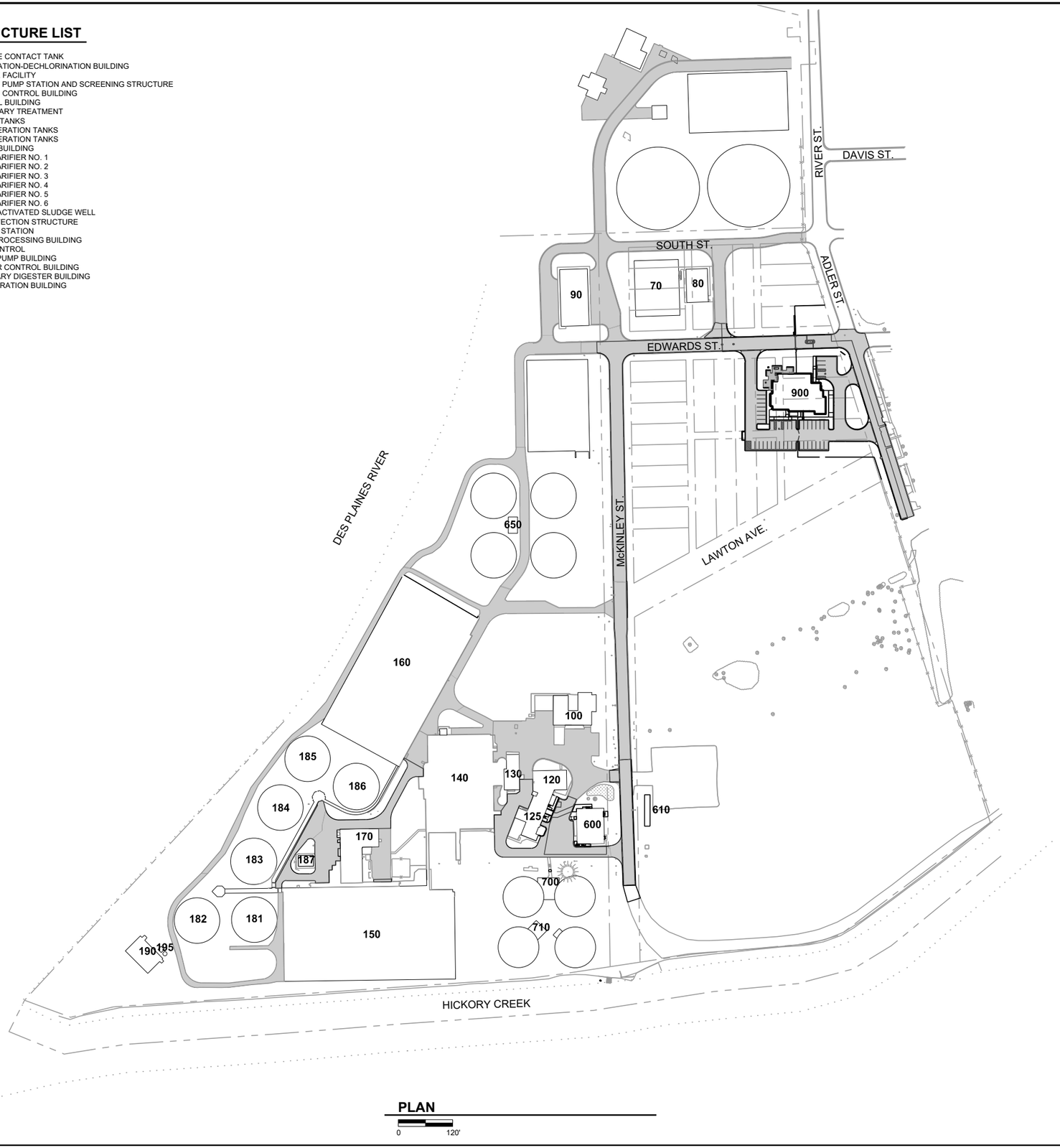
DONOHUE

Sheet No. 25

Drawing No. 002-CR-10

STRUCTURE LIST

70	CHLORINE CONTACT TANK
80	CHLORINATION-DECHLORINATION BUILDING
90	STORAGE FACILITY
100	INFLUENT PUMP STATION AND SCREENING STRUCTURE
120	PROCESS CONTROL BUILDING
125	CHEMICAL BUILDING
130	PRELIMINARY TREATMENT
140	PRIMARY TANKS
150	SOUTH AERATION TANKS
160	NORTH AERATION TANKS
170	BLOWER BUILDING
181	FINAL CLARIFIER NO. 1
182	FINAL CLARIFIER NO. 2
183	FINAL CLARIFIER NO. 3
184	FINAL CLARIFIER NO. 4
185	FINAL CLARIFIER NO. 5
186	FINAL CLARIFIER NO. 6
187	RETURN ACTIVATED SLUDGE WELL
190	UV DISINFECTION STRUCTURE
195	W3 PUMP STATION
600	SOLIDS PROCESSING BUILDING
610	ODOR CONTROL
650	SLUDGE PUMP BUILDING
700	DIGESTER CONTROL BUILDING
710	SECONDARY DIGESTER BUILDING
900	ADMINISTRATION BUILDING



PLAN

0 120'

GENERAL NOTES:

1. APPLY EMULSIFIED MALTENE-BASED PAVEMENT REJUVENATOR TO ALL NEW AND EXISTING ASPHALT SURFACES WITHIN THE PROJECT AND PLANT LIMITS. SEE SECTION 32 12 18.

LEGEND

PAVEMENT TO RECEIVE EMULSIFIED MALTENE-BASED REJUVENATOR.

Revision Number	Revision Description	Drawn By	Checked By	Date
01	ADDENDUM NO. 2	MLM	PMS	01/09/2019

Designed By	MLM
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Filename	002CF02.dwg
Project No.	13320
Project Date	DEC 2018

CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

SITE DEVELOPMENT
ASPHALT PAVEMENT REJUVENATION PLAN

DONOHUE

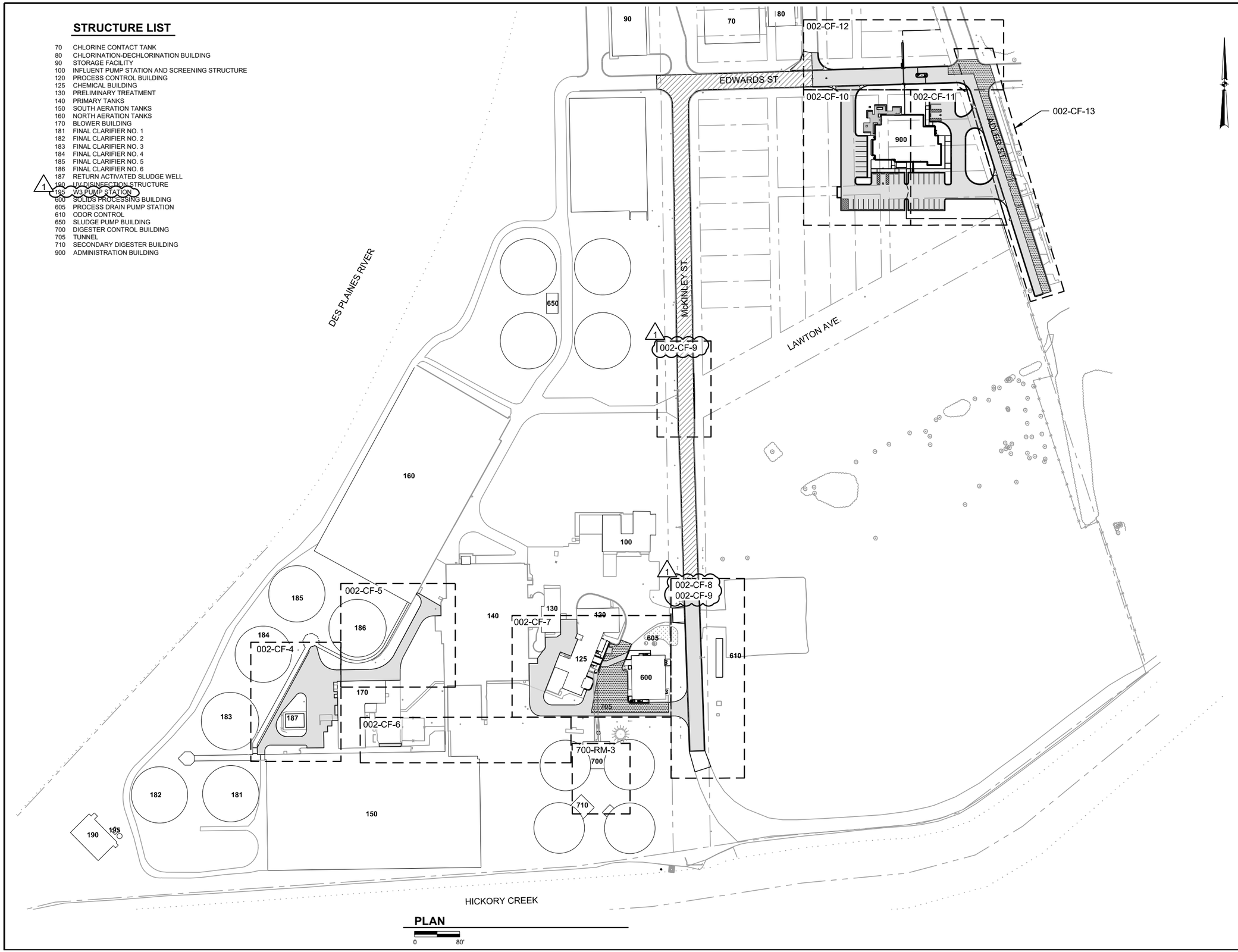
Sheet No. 27

Drawing No. 002-CF-2

1

STRUCTURE LIST

70 CHLORINE CONTACT TANK
80 CHLORINATION-DECHLORINATION BUILDING
90 STORAGE FACILITY
100 INFLUENT PUMP STATION AND SCREENING STRUCTURE
120 PROCESS CONTROL BUILDING
125 CHEMICAL BUILDING
130 PRELIMINARY TREATMENT
140 PRIMARY TANKS
150 SOUTH AERATION TANKS
160 NORTH AERATION TANKS
170 BLOWER BUILDING
181 FINAL CLARIFIER NO. 1
182 FINAL CLARIFIER NO. 2
183 FINAL CLARIFIER NO. 3
184 FINAL CLARIFIER NO. 4
185 FINAL CLARIFIER NO. 5
186 FINAL CLARIFIER NO. 6
187 RETURN ACTIVATED SLUDGE WELL
190 UV DISINFECTION STRUCTURE
195 W3 PUMP STATION
600 SOLIDS PROCESSING BUILDING
605 PROCESS DRAIN PUMP STATION
610 ODOR CONTROL
650 SLUDGE PUMP BUILDING
700 DIGESTER CONTROL BUILDING
705 TUNNEL
710 SECONDARY DIGESTER BUILDING
900 ADMINISTRATION BUILDING



PLAN

0 80'

Revision Number	Revision Description	Drawn By	Checked By	Date
01	ADDENDUM NO. 2	MLM	PMS	01/09/2019

Designed By	MLM
Drawn By	MLM
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Filename	002CF03.dwg
Project No.	13320
Project Date	DEC 2018

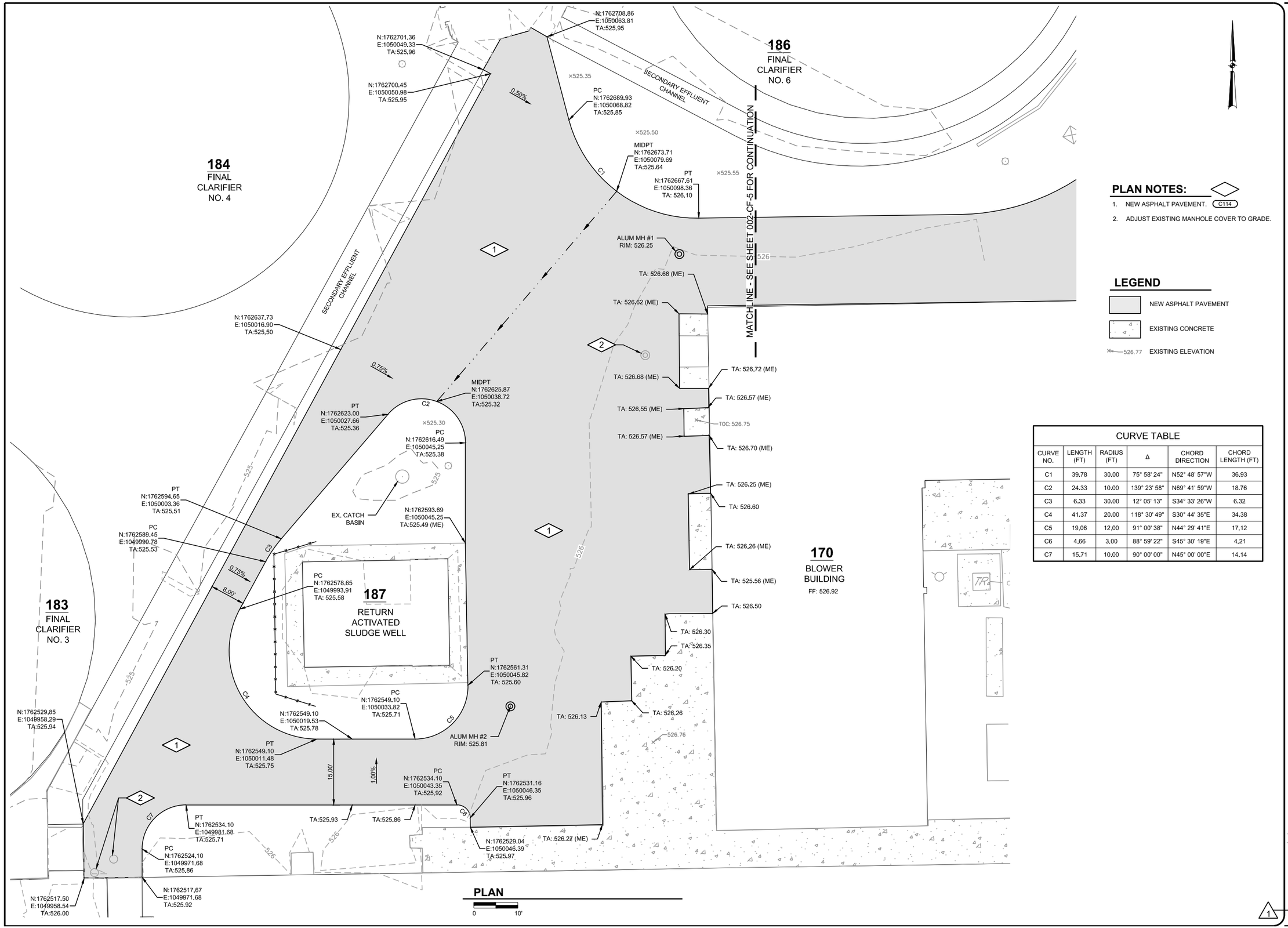
CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

SITE DEVELOPMENT
SITE KEY PLAN

DONOHUE

Sheet No. 28

Drawing No. 002-CF-3



PLAN NOTES:

1. NEW ASPHALT PAVEMENT. (C114)
2. ADJUST EXISTING MANHOLE COVER TO GRADE.

LEGEND

- NEW ASPHALT PAVEMENT
- EXISTING CONCRETE
- 526.77 EXISTING ELEVATION

CURVE TABLE

CURVE NO.	LENGTH (FT)	RADIUS (FT)	Δ	CHORD DIRECTION	CHORD LENGTH (FT)
C1	39.78	30.00	75° 58' 24"	N52° 48' 57"W	36.93
C2	24.33	10.00	139° 23' 58"	N69° 41' 59"W	18.76
C3	6.33	30.00	12° 05' 13"	S34° 33' 26"W	6.32
C4	41.37	20.00	118° 30' 49"	S30° 44' 35"E	34.38
C5	19.06	12.00	91° 00' 38"	N44° 29' 41"E	17.12
C6	4.66	3.00	88° 59' 22"	S45° 30' 19"E	4.21
C7	15.71	10.00	90° 00' 00"	N45° 00' 00"E	14.14

Revision Number	Revision Description	Drawn By	Checked By	Date
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CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

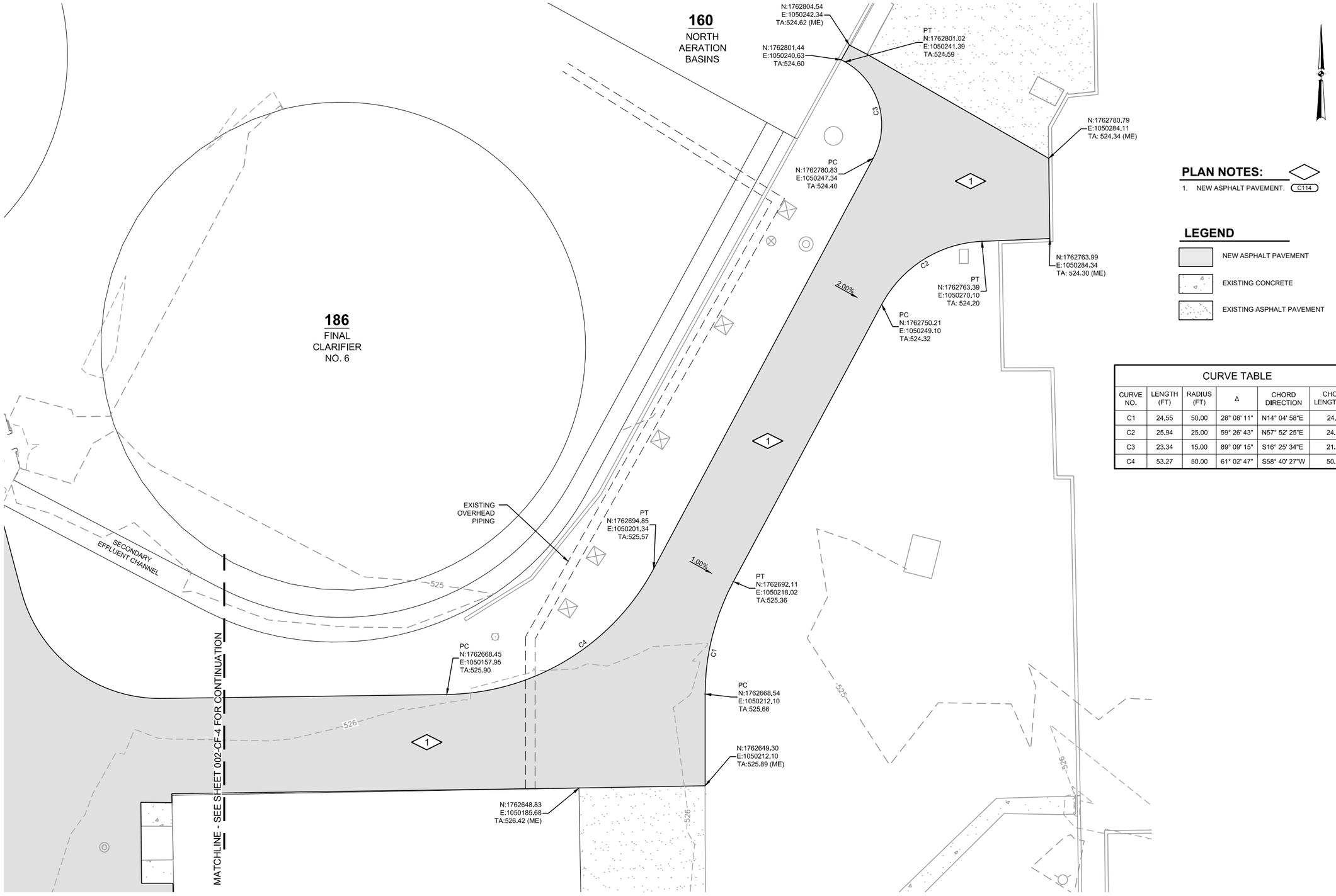
SITE DEVELOPMENT
PLANT SITE LAYOUT AND GRADING PLAN 1

DONOHUE

Sheet No. 29

Drawing No. 002-CF-4

1



PLAN

0 10'

PLAN NOTES:

1. NEW ASPHALT PAVEMENT. (C114)

LEGEND

- NEW ASPHALT PAVEMENT
- EXISTING CONCRETE
- EXISTING ASPHALT PAVEMENT

CURVE TABLE

CURVE NO.	LENGTH (FT)	RADIUS (FT)	Δ	CHORD DIRECTION	CHORD LENGTH (FT)
C1	24.55	50.00	28° 08' 11"	N14° 04' 58"E	24.31
C2	25.94	25.00	59° 26' 43"	N57° 52' 25"E	24.79
C3	23.34	15.00	89° 09' 15"	S16° 25' 34"E	21.06
C4	53.27	50.00	61° 02' 47"	S58° 40' 27"W	50.79

Revision Number	Revision Description	Drawn By	Checked By	Date
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Project No.	13320
Project Date	DEC 2018

CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

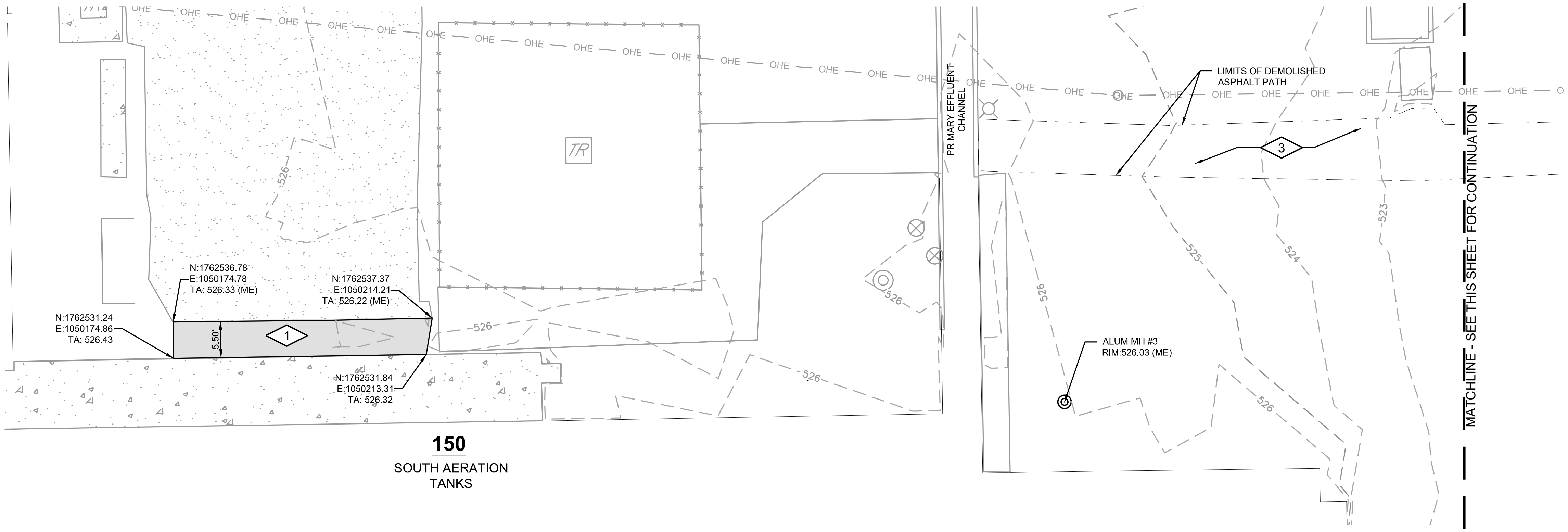
SITE DEVELOPMENT
PLANT SITE LAYOUT AND GRADING PLAN 2

DONOHUE

Sheet No. 30

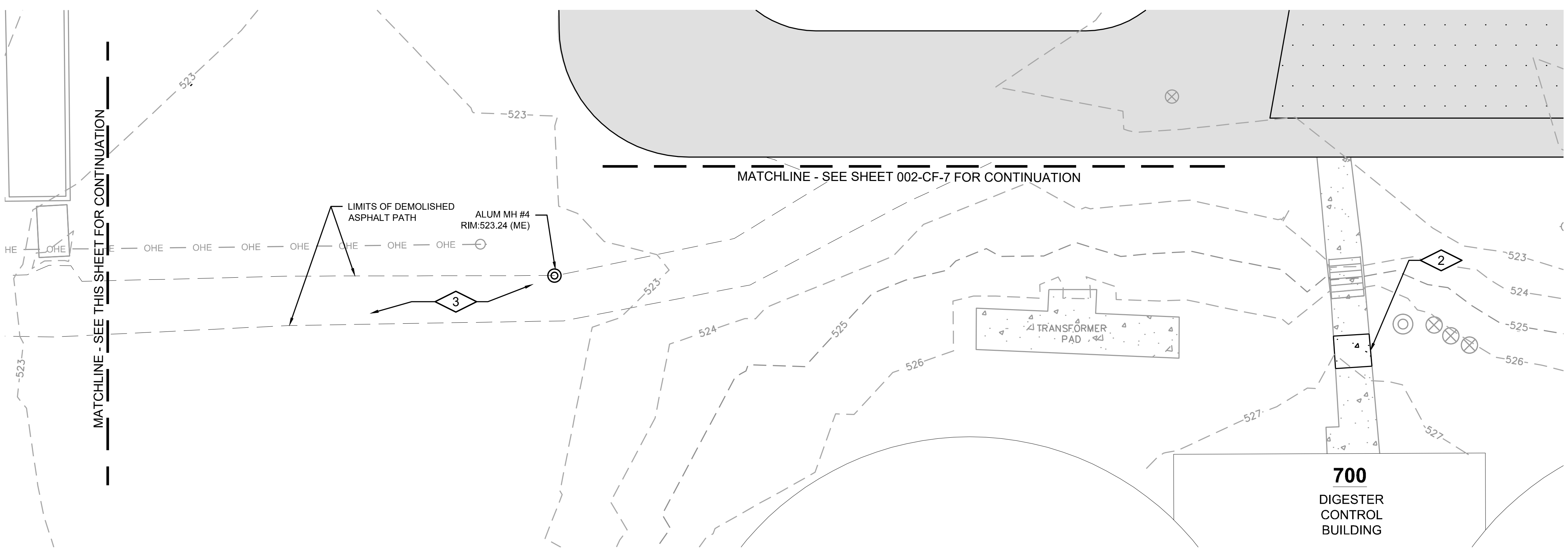
Drawing No. 002-CF-5

1



PLAN

0 10'



PLAN

0 10'

PLAN NOTES:

1. NEW ASPHALT PAVEMENT. SAWCUT EXISTING ASPHALT PAVEMENT TO ACHIEVE A NEAT EDGE. (C114)
2. CONCRETE SIDEWALK. (C150) MATCH EXISTING GRADES.
3. RE-GRADE AND SEED PREVIOUSLY PAVED AREA.

LEGEND

- NEW ASPHALT PAVEMENT
- ASPHALT PAVEMENT RESTORATION
- NEW CONCRETE
- EXISTING CONCRETE
- EXISTING ASPHALT PAVEMENT

Revision Number	Revision Description	Drawn By	Checked By	Date
01	ADDENDUM NO. 2.	MLM	PMS	01/09/2019

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Filename	002CF06.dwg
Project No.	13320
Project Date	DEC 2018

CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

SITE DEVELOPMENT
PLANT SITE LAYOUT AND GRADING PLAN 3

DONOHUE

Sheet No. **31**

Drawing No. **002-CF-6** (1)

CURVE TABLE					
CURVE NO.	LENGTH (FT)	RADIUS (FT)	Δ	CHORD DIRECTION	CHORD LENGTH (FT)
C1	31.15	20.00	89° 14' 08"	S45° 22' 56"E	28.09
C2	29.23	15.00	111° 38' 24"	N34° 10' 48"W	24.82
C3	18.04	15.00	68° 53' 32"	S55° 33' 14"W	16.97
C4	7.09	4.50	90° 15' 27"	S45° 51' 53"E	6.38

130
PRELIMINARY TREATMENT

140
PRIMARY TANKS

120
PROCESS CONTROL BUILDING

125
CHEMICAL BUILDING

605
PROCESS DRAIN PUMP STATION

600
SOLIDS PROCESSING BUILDING

TA:523.24 (ME)
TA:523.09 (ME)
TA:523.32 (ME)
DIGESTER LIQUOR MH RIM:523.35
TA:523.27 (ME)
TA:523.51 (ME)
TA:523.53 (ME)
TA:523.26 (ME)
TA:523.61 (ME)
TA:523.33 (ME)
TA:523.64 (ME)
TA:523.92 (ME)
TA:523.70 (ME)
SEE 002-CF-7A FOR ENLARGEMENT
TA:523.68 (ME)
TA:524.28 (ME)
TA:525.14
TA:524.58
TA:524.66
TA:525.48 MATCH EX. TOC
TA:525.29 MATCH EX. TOC
TA:525.44 MATCH EX. TOC
PC N:1762625.86 E:1050467.35 TA:525.44
TA:525.52 MATCH EX. TOC
ALUM MH #6 RIM:525.05
PC N:1762605.63 E:1050441.76 TA:524.96
PT N:1762605.33 E:1050481.29 TA:524.64
PC N:1762605.33 E:1050522.82 TA:523.52
PT N:1762614.93 E:1050536.81 TA:523.03
TA:522.98 MATCH EX. TOC
ALUM MH #5 RIM:522.80
PT N:1762585.89 E:1050461.76 TA:524.65
TA:524.45
TA:523.33
TA:523.06 (ME)
TA:522.88 (ME)
TA:522.71 (ME)
MATCHLINE - SEE SHEET 002-CF-6 FOR CONTINUATION
N:1762702.47 E:1050656.32 TOC:522.94
FL:522.00 (ME) TC:522.35 (ME)
SEE 600-AS-2 FOR DETAILS
9.00'
TOC:523.07(ME)
TOC:522.96 (ME)
TOC:522.96 (ME)
FL:522.09 (ME) TC:522.58 (ME)
MATCHLINE - SEE SHEET 002-CF-8 FOR CONTINUATION
FL:522.55 (ME) TC:523.06 (ME)
TOC:523.06 (ME)
TOC:523.09 (ME)
TOC:523.15 (ME)
TA:522.46 (ME)
TA:522.53 (ME)
PC N:1762614.13 E:1050617.58 FL:522.51 TC:523.01
C4
FL:522.47 (ME) TC:522.98 (ME)
PT N:1762609.69 E:1050622.16 FL:522.50 TC:523.00
TA:521.93 (ME)
TA:521.72
OHE

GENERAL NOTES:

1. REPLACE PAVEMENT MARKINGS REMOVED BY CONSTRUCTION. MATCH EXISTING.
2. ADJUST ALL MANHOLE COVERS, VALVE BOXES, ETC. TO GRADE. ADDITIONAL MANHOLE COVERS, VALVES, ETC. MAY EXIST THAT ARE NOT SHOWN ON THIS DRAWING.
3. SEE REMOVAL SHEETS FOR COORDINATES OF RESTORATION LIMITS.
4. CURB CURVE DATA AND COORDINATES ARE TO THE TOP BACK OF CURB UNLESS OTHERWISE NOTED.

PLAN NOTES:

1. NEW ASPHALT PAVEMENT. (C114)
2. PAVEMENT RESTORATION. MATCH EXISTING GRADES. (C112)
3. NEW CURB AND GUTTER. (C167)
4. NEW CONCRETE SIDEWALK. (C150)
5. PROTECT EXISTING RAIN GARDEN.
6. INSTALL LANDSCAPING PER PLANTING SCHEDULE 002-CL-8. CONTRACTOR SHALL COORDINATE WITH LANDSCAPE ARCHITECT TO FIELD IDENTIFY PLANTING LOCATIONS.

PLAN
0 10'

LEGEND

- NEW ASPHALT PAVEMENT
- PAVEMENT RESTORATION
- NEW CONCRETE
- EXISTING CONCRETE
- EXISTING ASPHALT PAVEMENT

Revision Number	Revision Description	Drawn By	Checked By	Date
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Project No.	13320
Project Date	DEC 2018

CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

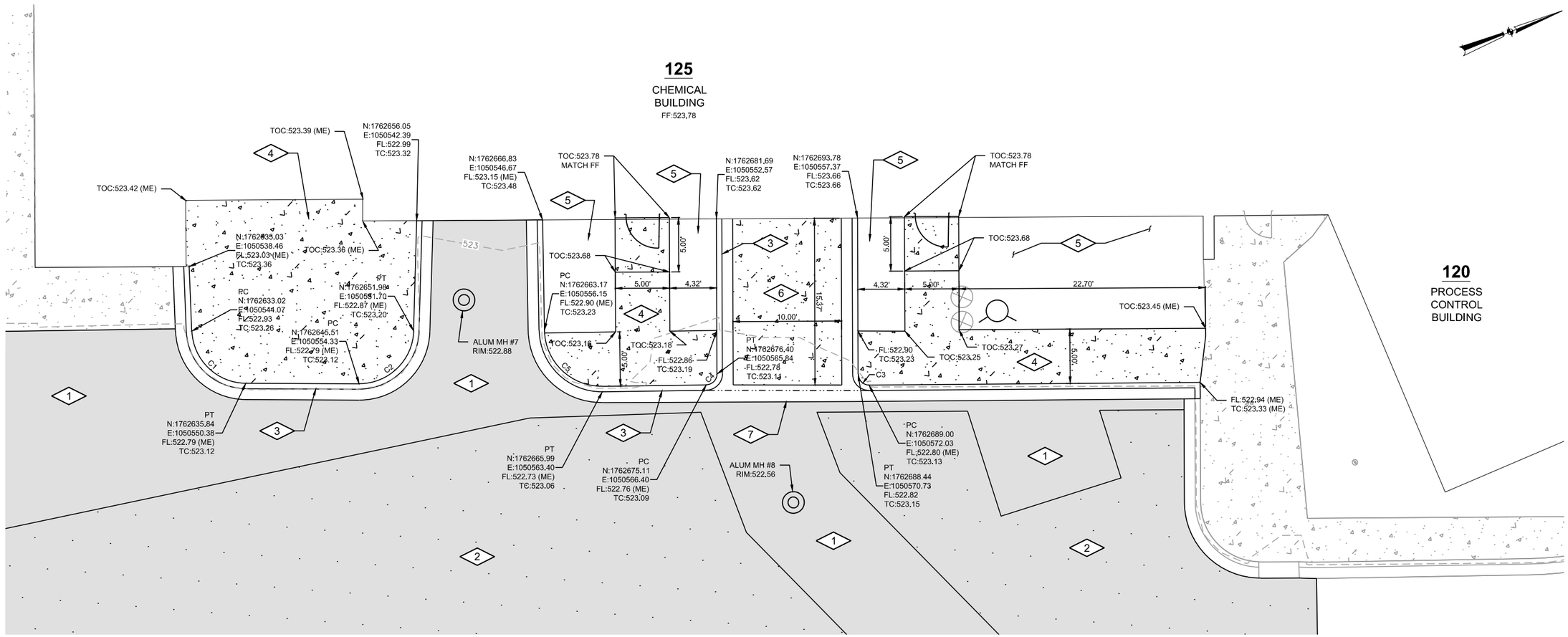
SITE DEVELOPMENT
PLANT SITE LAYOUT AND GRADING PLAN 4

DONOHUE

Sheet No. 32

Drawing No. 002-CF-7

1



PLAN

0 5'

CURVE TABLE					
CURVE NO.	LENGTH (FT)	RADIUS (FT)	Δ	CHORD DIRECTION	CHORD LENGTH (FT)
C1	7.63	5.00	87° 28' 25"	N65° 56' 54"E	6.91
C2	7.73	5.00	88° 35' 00"	N22° 04' 48"W	6.98
C3	1.58	1.00	90° 15' 24"	N66° 39' 02"E	1.42
C4	1.56	1.00	89° 24' 49"	S23° 30' 51"E	1.41
C5	8.24	5.25	89° 52' 30"	S66° 07' 48"W	7.42

GENERAL NOTES:

1. ADJUST ALL MANHOLE COVERS, VALVE BOXES, ETC. TO GRADE. ADDITIONAL MANHOLE COVERS, VALVES, ETC. MAY EXIST THAT ARE NOT SHOWN ON THIS DRAWING.
2. SEE REMOVAL SHEETS FOR COORDINATES OF RESTORATION LIMITS.
3. CURB CURVE DATA AND COORDINATES ARE TO THE TOP BACK OF CURB UNLESS OTHERWISE NOTED.

PLAN NOTES:

1. NEW ASPHALT PAVEMENT. (C114)
2. PAVEMENT RESTORATION. (C112) MATCH EXISTING GRADES.
3. NEW CURB AND GUTTER. (C167)
4. NEW CONCRETE SIDEWALK. (C150)
5. INSTALL LANDSCAPING PER PLANTING SCHEDULE 002-CL-8. CONTRACTOR SHALL COORDINATE WITH LANDSCAPE ARCHITECT TO FIELD IDENTIFY PLANTING LOCATIONS.
6. CONCRETE DRIVEWAY. (C180)
7. DEPRESSED CURB AND GUTTER. (C175)

LEGEND

- NEW ASPHALT PAVEMENT
- PAVEMENT RESTORATION
- NEW CONCRETE
- EXISTING CONCRETE
- EXISTING ASPHALT PAVEMENT

Revision Number	Revision Description	Drawn By	Checked By	Date
01	ADDENDUM NO. 2	MLM	PMS	01/09/2019

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Project No.	13320
Project Date	DEC 2018

CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

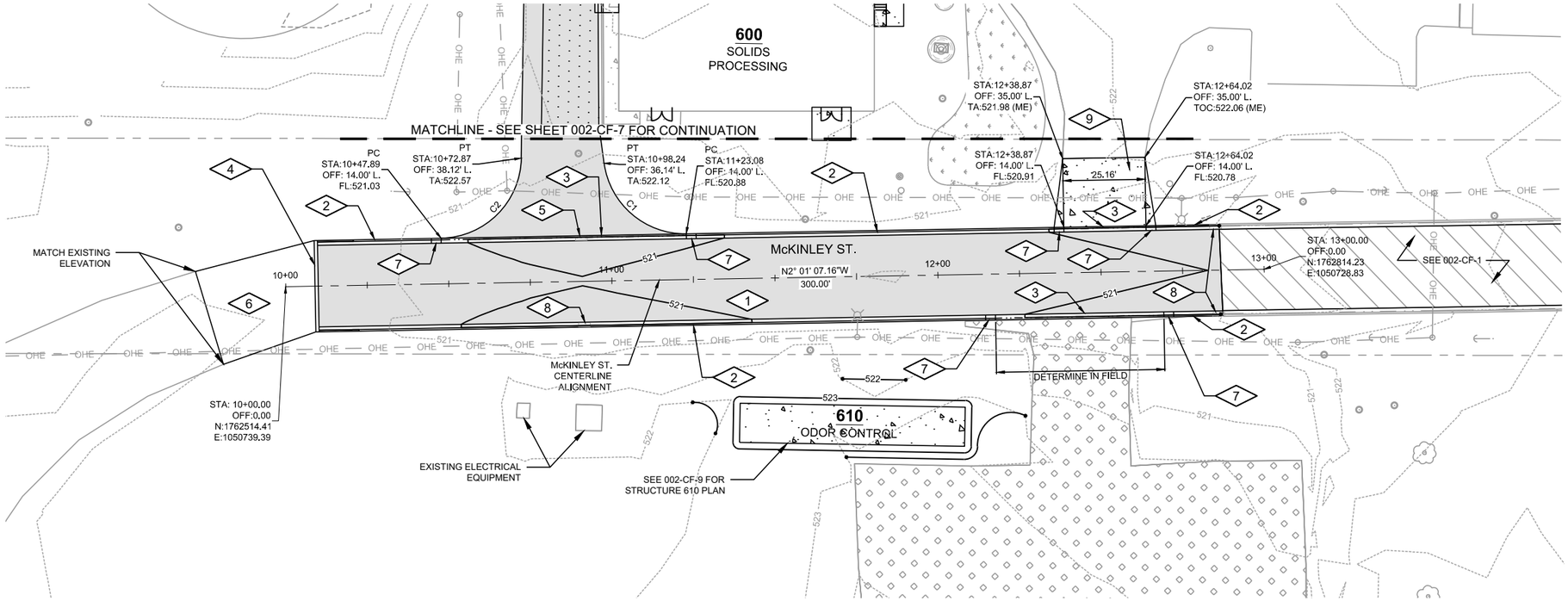
SITE DEVELOPMENT
ENLARGED PLANT SITE LAYOUT AND GRADING PLAN

DONOHUE

Sheet No. 32A

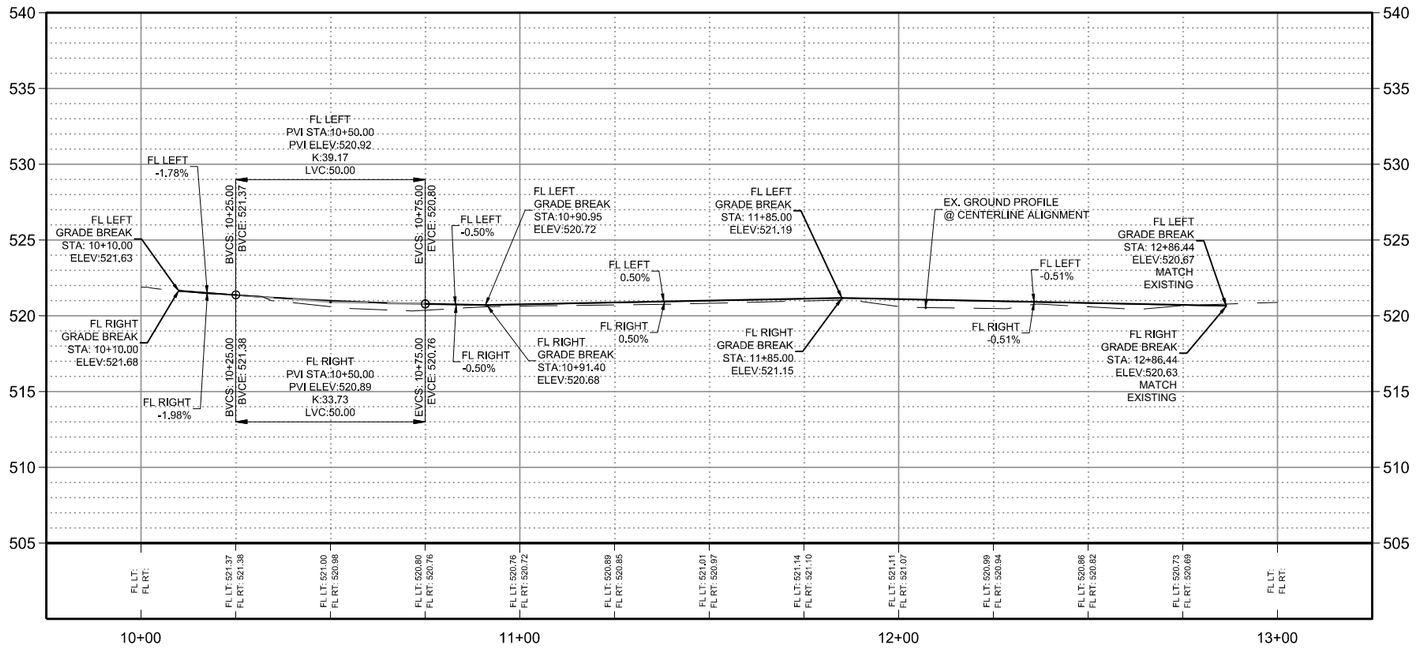
Drawing No. 002-CF-7A

1



PLAN

0 20'



PROFILE

0 20'

GENERAL NOTES:

1. CURVE DATA IS TO TOP BACK OF CURB UNLESS OTHERWISE NOTED.
2. SEE C120 FOR MCKINLEY ST. TYPICAL SECTION.

PLAN NOTES:

1. FULL DEPTH ASPHALT PAVEMENT. C115
2. CURB AND GUTTER. C167
3. DEPRESSED CURB AND GUTTER. C175
4. FLUSH HEADER CURB. C178
5. INSTALL GRATE FOR DEPRESSED CURB AND GUTTER AT EXISTING CURB INLET. ADJUST GRATE TO GRADE. GRATE TO BE PROVIDED BY OWNER.
6. RESTORE GRAVEL ROAD. GRADE TO MATCH NEW ELEVATIONS AT EDGE OF PAVEMENT.
7. PROVIDE 3' TRANSITION FROM STANDARD TO DEPRESSED CURB AND GUTTER.
8. EXISTING CURB INLET.
9. CONCRETE DRIVEWAY APRON. C180

LEGEND

- NEW ASPHALT PAVEMENT
- 1.75" SURFACE COURSE OVERLAY
- NEW CONCRETE

CURVE TABLE					
CURVE NO.	LENGTH (FT)	RADIUS (FT)	Δ	CHORD DIRECTION	CHORD LENGTH (FT)
C1	36.40	25.00	83° 25' 11"	S39° 41' 29"W	33.27
C2	38.39	25.00	87° 59' 09"	N46° 00' 42"W	34.73

McKINLEY ST. ROADWAY CENTERLINE ELEVATIONS	
STATION	ELEVATION
10+10	521.95
10+25	521.68
10+50	521.31
10+75	521.11
11+00	521.08
11+25	521.20
11+50	521.33
11+75	521.43
11+85	521.50
12+00	521.43
12+25	521.30
12+50	521.17
12+75	521.04
12+86.44	520.98

Revision Number	Revision Description	Drawn By	Checked By	Date
01	ADDENDUM NO. 2	MLM	PMS	01/09/2019

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CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

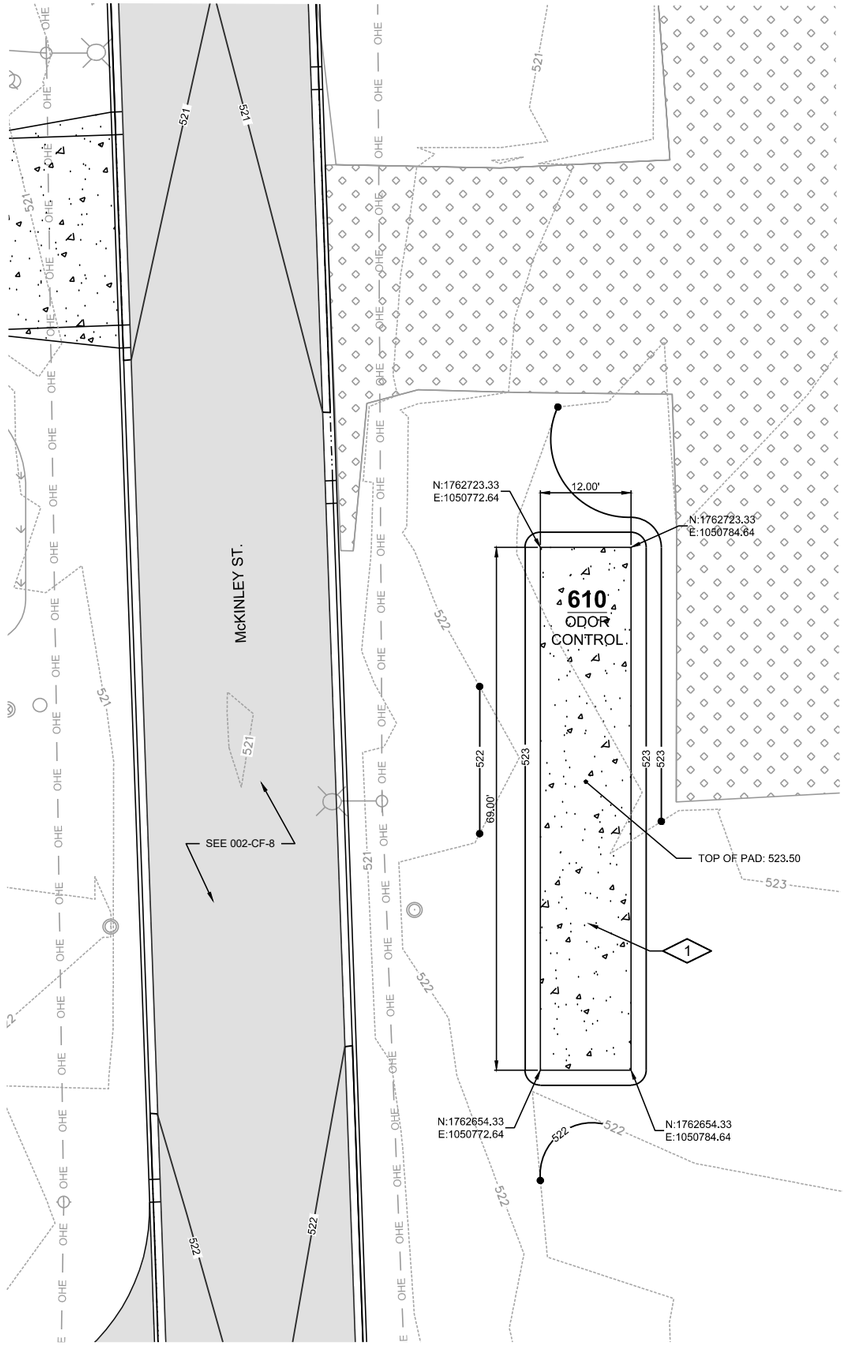
SITE DEVELOPMENT
MCKINLEY ST PAVING PLAN AND PROFILE

DONOHUE

Sheet No. 33

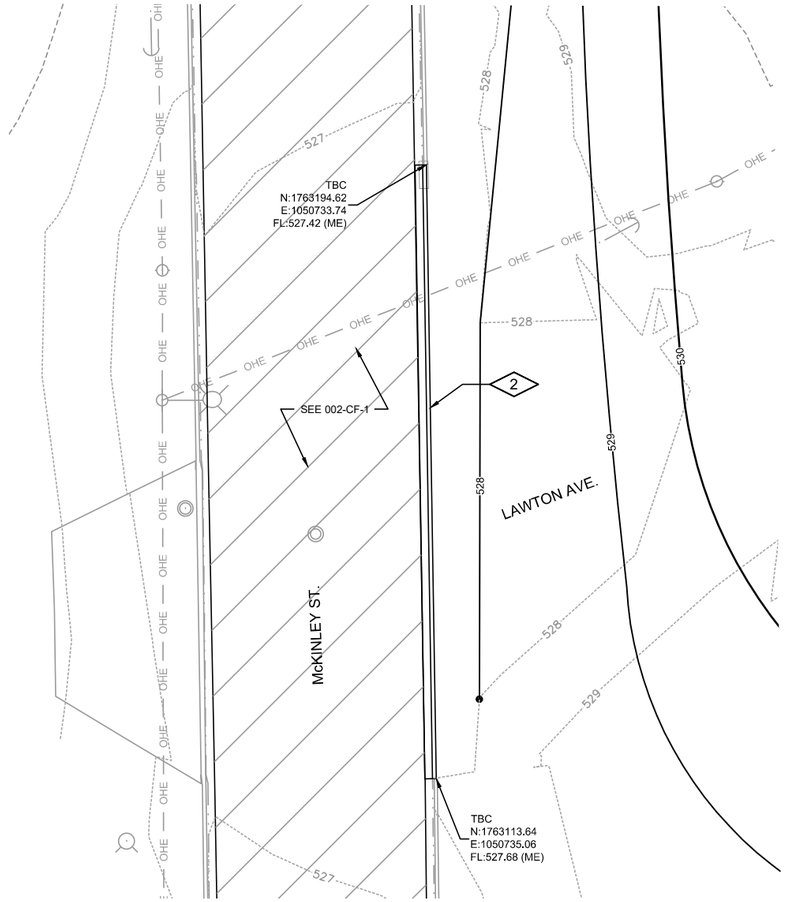
Drawing No. 002-CF-8

1



STRUCTURE 610 PLAN

0 10'



McKINLEY AND LAWTON INTERSECTION PLAN

0 10'

PLAN NOTES:

1. EQUIPMENT PAD. S346
2. STANDARD CURB AND GUTTER, C167 SAWCUT, REMOVE, AND REPLACE 1' WIDE STRIP OF 3" ASPHALT BINDER COURSE ALONG PROPOSED LIP OF GUTTER FOR CURB FORMING AND PLACEMENT.

LEGEND

- NEW ASPHALT PAVEMENT
- 1.75" SURFACE COURSE OVERLAY
- NEW CONCRETE

Revision Number	Revision Description	Drawn By	Checked By	Date
01	ADDENDUM NO. 2	MLM	PMS	01/09/2019

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CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

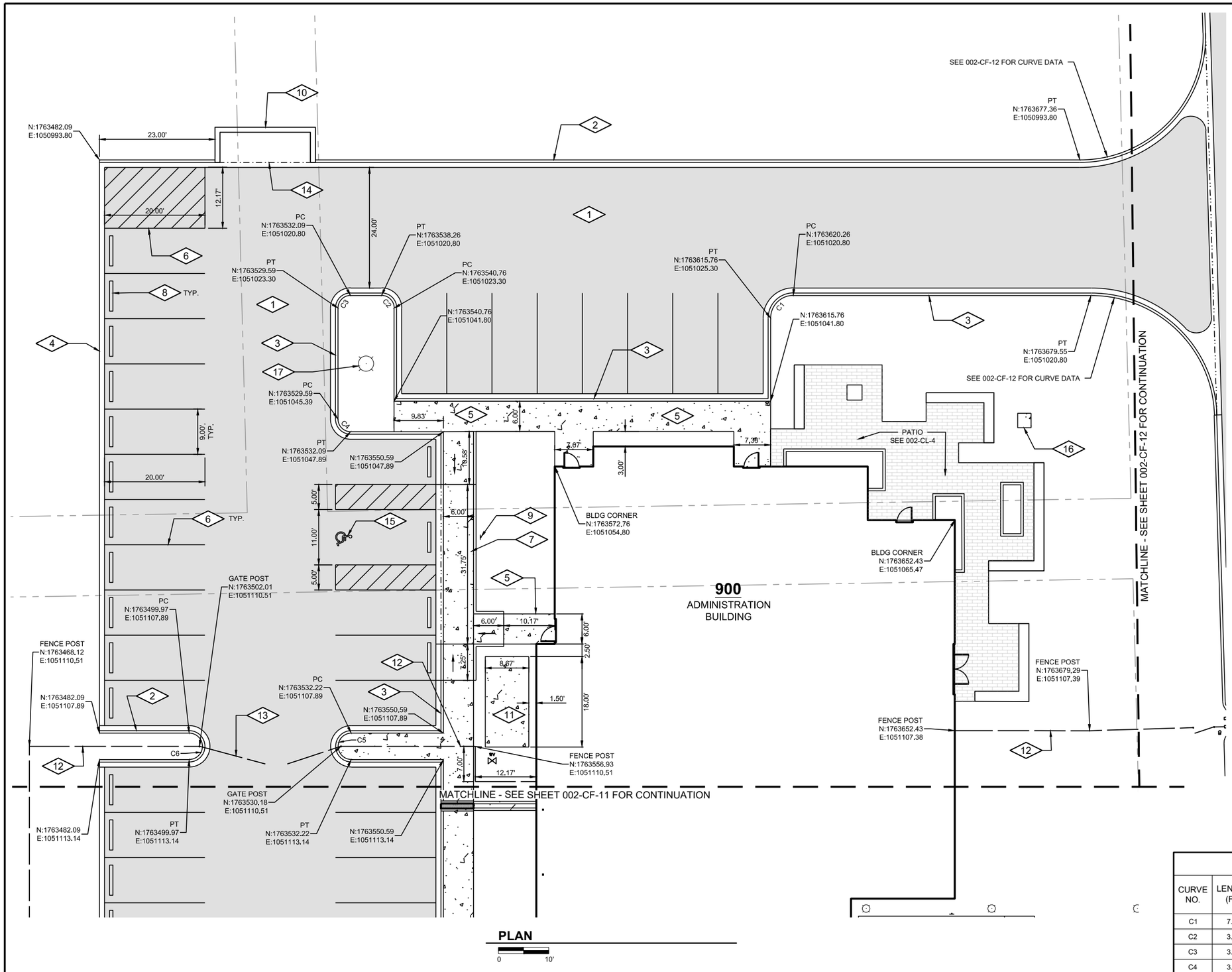
SITE DEVELOPMENT
STRUCTURE 610 PLAN

DONOHUE

Sheet No. 34

Drawing No. 002-CF-9

1



PLAN

0 10'

GENERAL NOTES:

1. ALL COORDINATES AND CURVE DATA ARE TO TOP BACK OF CURB UNLESS OTHERWISE NOTED.

PLAN NOTES:

1. ASPHALT PAVEMENT. C114
2. STANDARD CURB AND GUTTER. C115
3. REVERSE PITCH CURB AND GUTTER. C179
4. FLUSH HEADER CURB. C178
5. CONCRETE SIDEWALK. C150
6. 4" WIDE PAVEMENT MARKING.
7. CURB RAMP. C172
8. 6' PRECAST PARKING BUMPER.
9. ACCESSIBLE PARKING SIGN. C761
10. DUMPSTER ENCLOSURE. SEE 900-AS-23.
11. EQUIPMENT PAD. S346
12. ORNAMENTAL STEEL FENCE. C703
13. ORNAMENTAL STEEL DOUBLE SWING GATE. C705
14. DEPRESSED CURB AND GUTTER. C175
15. INTERNATIONAL SYMBOL OF ACCESSIBILITY. C760
16. 6' X 6' EQUIPMENT PAD FOR HERITAGE PUMP. S346 SET TOP OF PAD 6" BELOW GRADE. PROVIDE STAINLESS STEEL ANCHOR BOLTS EXTENDING 2" ABOVE GRADE TO MOUNT PUMP. MOUNT PUMP (PUMP TO BE PROVIDED BY OWNER).
17. LIGHT POLE. SEE 002-EN-2.

LEGEND

NEW ASPHALT PAVEMENT

NEW CONCRETE

CURVE TABLE					
CURVE NO.	LENGTH (FT)	RADIUS (FT)	Δ	CHORD DIRECTION	CHORD LENGTH (FT)
C1	7.07	4.50	90° 00' 00"	S45° 00' 00"E	6.36
C2	3.93	2.50	90° 00' 00"	S45° 00' 00"W	3.54
C3	3.93	2.50	90° 00' 00"	S45° 00' 00"E	3.54
C4	3.93	2.50	90° 00' 00"	S45° 00' 00"W	3.54
C5	8.25	2.63	180° 00' 03"	N89° 59' 59"E	5.25
C6	8.25	2.63	180° 00' 00"	N90° 00' 00"W	5.25

Revision Number	Revision Description	Drawn By	Checked By	Date
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CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

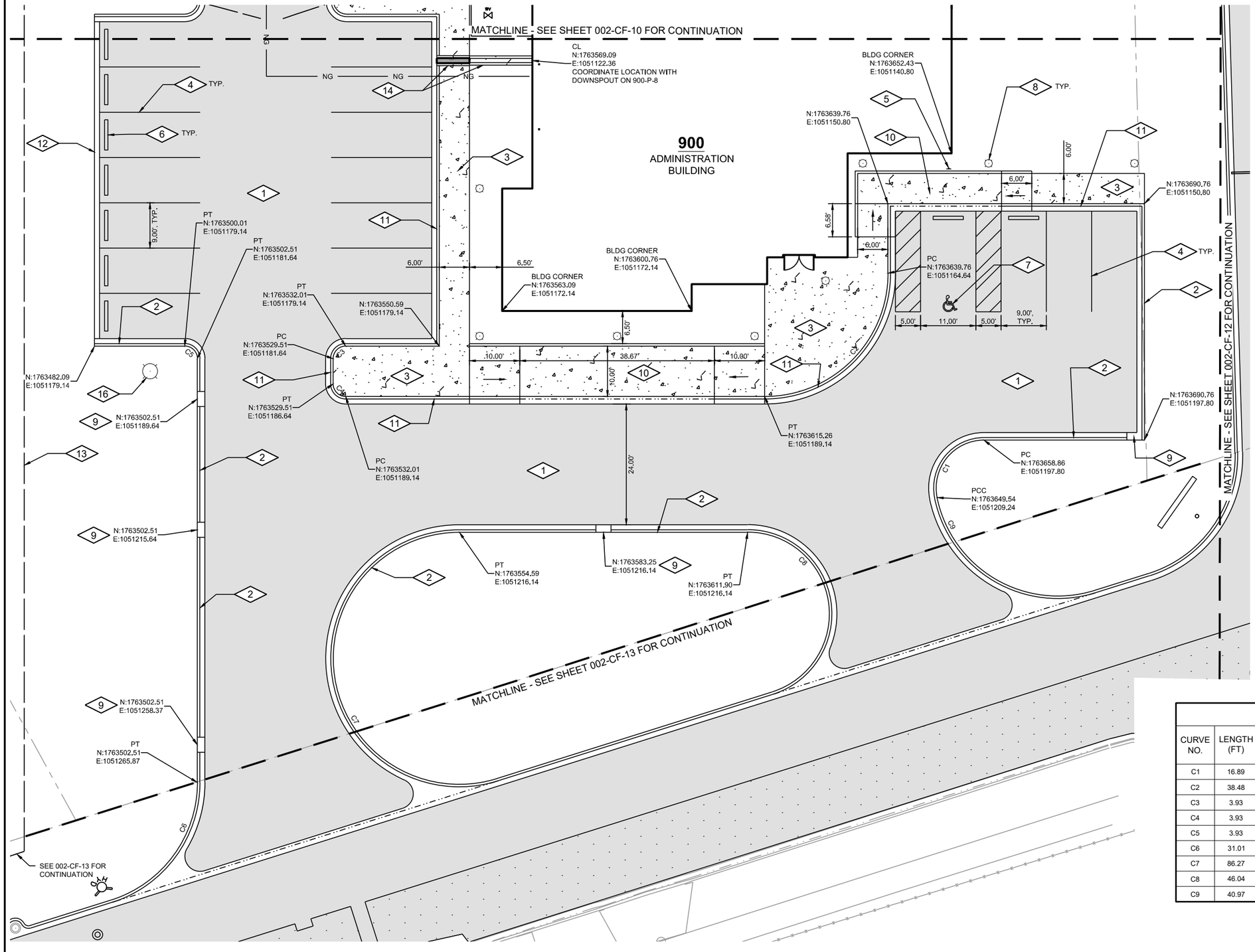
SITE DEVELOPMENT
STRUCTURE 900 SITE PLAN 1

DONOHUE

Sheet No. 35

Drawing No. 002-CF-10

1



PLAN

0 10'

GENERAL NOTES:

1. ALL COORDINATES AND CURVE DATA ARE TO TOP BACK OF CURB UNLESS OTHERWISE NOTED.

PLAN NOTES:

1. ASPHALT PAVEMENT. C114
2. STANDARD CURB AND GUTTER. C167
3. CONCRETE SIDEWALK. C150
4. 4" WIDE PAVEMENT MARKING.
5. ACCESSIBLE PARKING SIGN. C761
6. 6' PRECAST CONCRETE PARKING BUMPER.
7. INTERNATIONAL SYMBOL OF ACCESSIBILITY. C760
8. BOLLARD LIGHT. SEE 002-EN-2.
9. CURB CUT. C177
10. CURB RAMP. C172
11. REVERSE PITCH CURB AND GUTTER. C179
12. FLUSH HEADER CURB. C178
13. ORNAMENTAL STEEL FENCE. C703
14. CONCRETE RUNDOWN AND SIDEWALK DRAIN. C901
15. LIGHT POLE. SEE 002-EN-2.

LEGEND

- NEW ASPHALT PAVEMENT
- NEW CONCRETE
- PAVEMENT RESTORATION

CURVE TABLE

CURVE NO.	LENGTH (FT)	RADIUS (FT)	Δ	CHORD DIRECTION	CHORD LENGTH (FT)
C1	16.89	9.52	101° 40' 03"	S50° 50' 01"E	14.76
C2	38.48	24.50	90° 00' 00"	N45° 00' 00"W	34.65
C3	3.93	2.50	90° 00' 00"	S45° 00' 00"E	3.54
C4	3.93	2.50	90° 00' 00"	N45° 00' 00"E	3.54
C5	3.93	2.50	90° 00' 00"	S45° 00' 00"W	3.54
C6	31.01	24.50	72° 31' 10"	N53° 44' 25"W	28.98
C7	86.27	25.05	197° 19' 47"	N81° 20' 07"E	49.53
C8	46.04	16.23	162° 31' 08"	S81° 15' 34"W	32.09
C9	40.97	24.50	95° 48' 47"	N30° 25' 33"E	36.36

Revision Number	Revision Description	Date
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CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

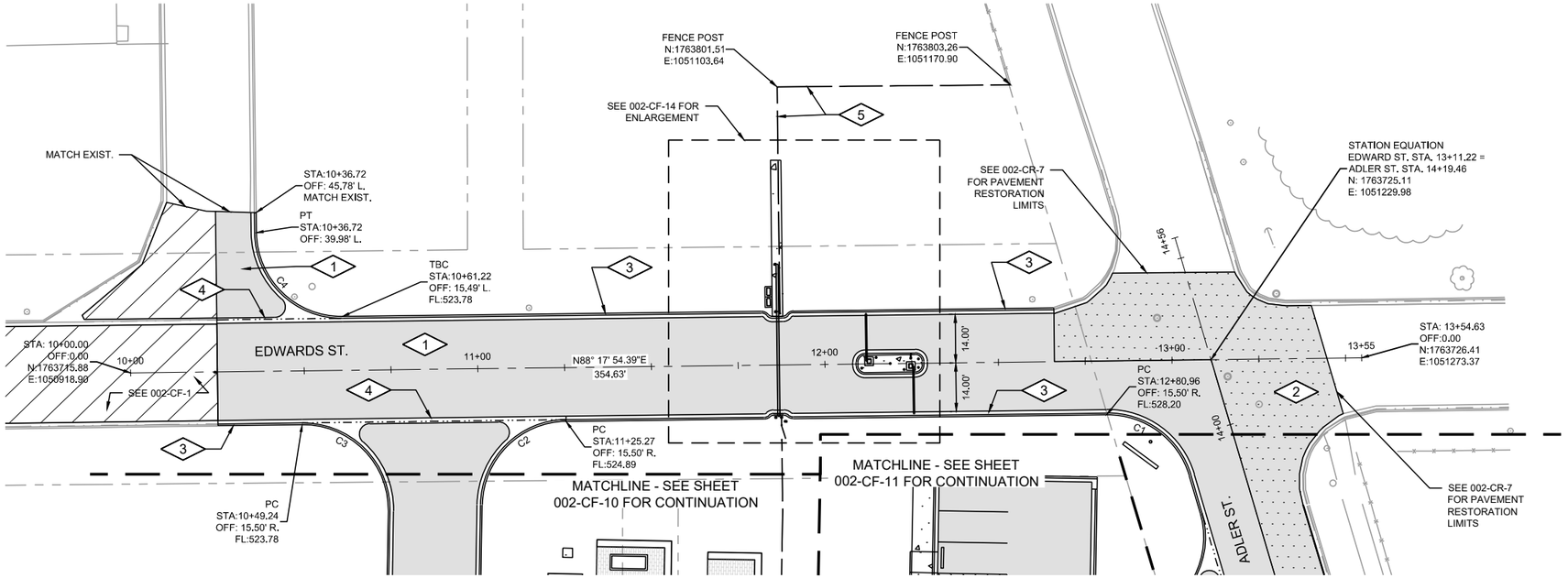
SITE DEVELOPMENT
STRUCTURE 900 SITE PLAN 2

DONOHUE

Sheet No. 36

Drawing No. 002-CF-11

1



PLAN

0 20'

GENERAL NOTES:

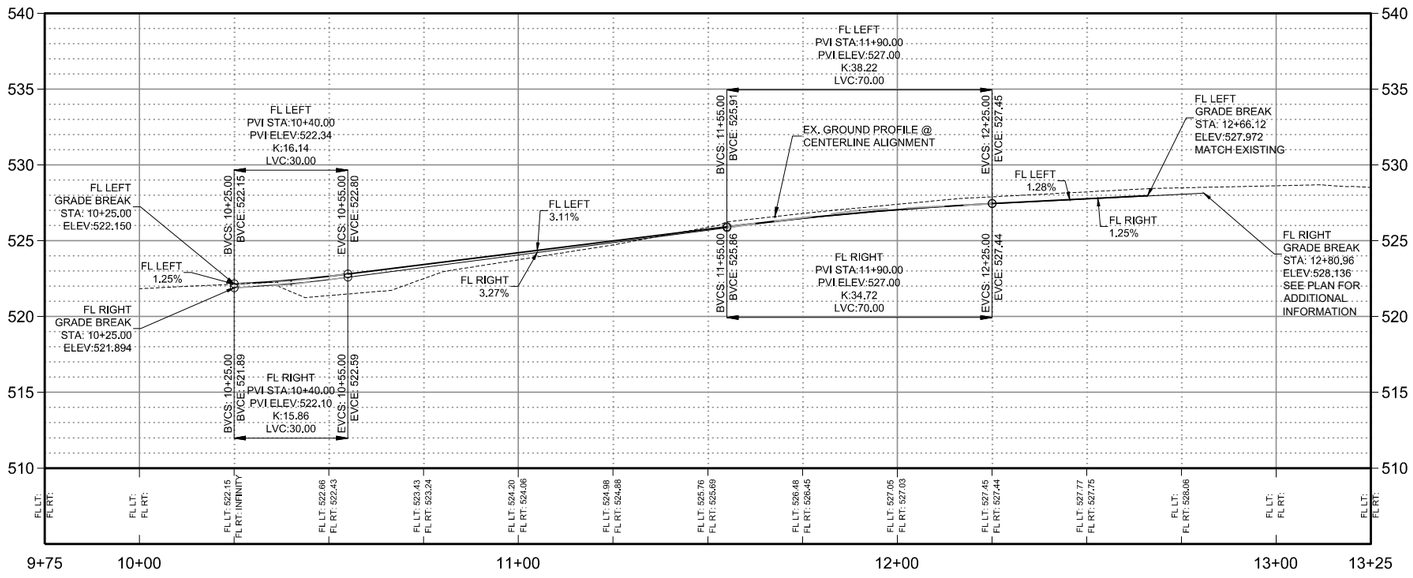
1. CURVE DATA IS TO TOP BACK OF CURB UNLESS OTHERWISE NOTED.
2. SEE C121 FOR EDWARDS ST. TYPICAL SECTION.
3. FOR CLARITY, EXISTING AND PROPOSED CONTOURS NOT SHOWN. SEE 002-CG-3 FOR CONTOURS.

PLAN NOTES:

1. FULL DEPTH ASPHALT PAVEMENT. C115
2. PAVEMENT RESTORATION. MATCH EXISTING ELEVATIONS. C112
3. CURB AND GUTTER. C167
4. VALLEY GUTTER. C176
5. ORNAMENTAL STEEL SECURITY FENCE. C703

LEGEND

- NEW ASPHALT PAVEMENT
- 1.75" SURFACE COURSE OVERLAY
- NEW CONCRETE
- PAVEMENT RESTORATION



PROFILE

0 20'

EDWARDS ST. ROADWAY CENTERLINE ELEVATIONS	
STATION	ELEVATION
10+25	522.05
10+50	522.86
10+75	523.63
11+00	524.41
11+25	525.18
11+50	525.96
11+75	526.68
12+00	527.25
12+25	527.65
12+50	527.97
12+66.12	528.17

CURVE TABLE					
CURVE NO.	LENGTH (FT)	RADIUS (FT)	Δ	CHORD DIRECTION	CHORD LENGTH (FT)
C1	31.74	24.50	74° 13' 16"	S54° 35' 28"E	29.56
C2	37.76	24.50	88° 17' 54"	N44° 08' 57"E	34.13
C3	39.21	24.50	91° 42' 06"	S45° 51' 03"E	35.16
C4	38.47	24.50	89° 57' 53"	S46° 42' 52"E	34.64

Revision Number	Revision Description	Drawn By	Checked By	Date
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CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

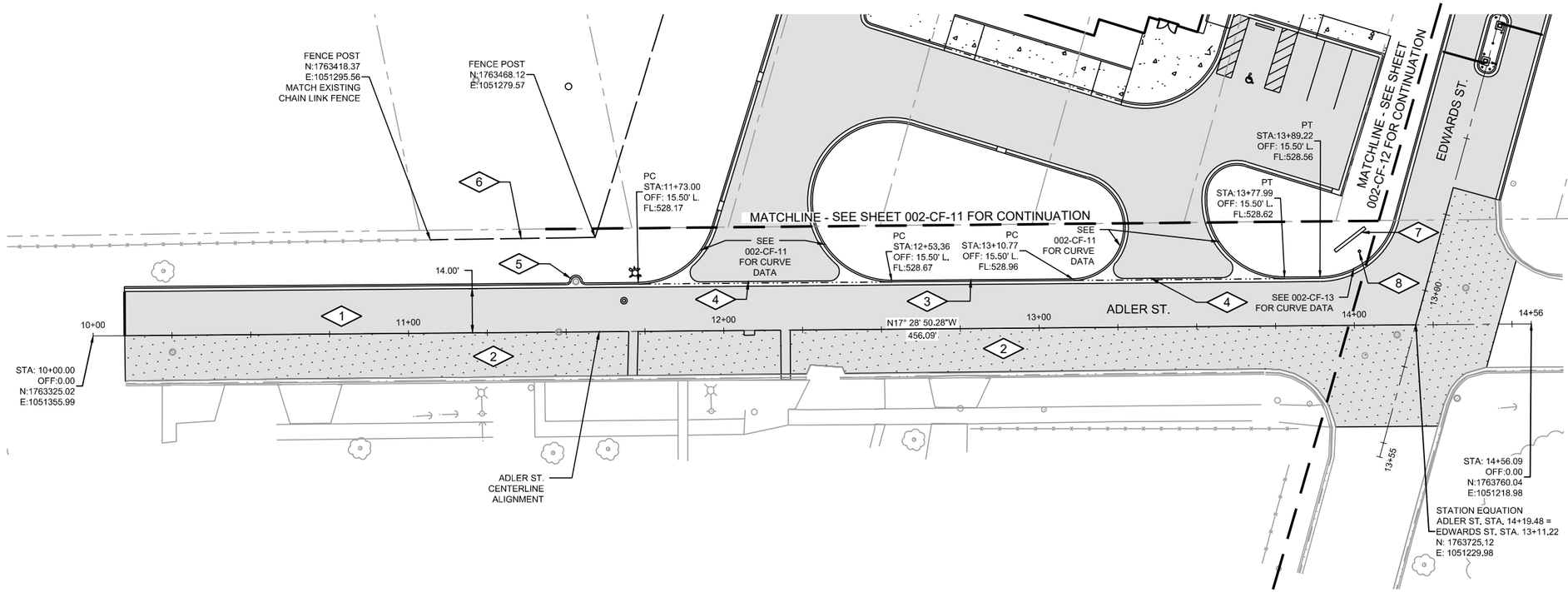
SITE DEVELOPMENT
EDWARDS ST PAVING PLAN AND PROFILE

DONOHUE

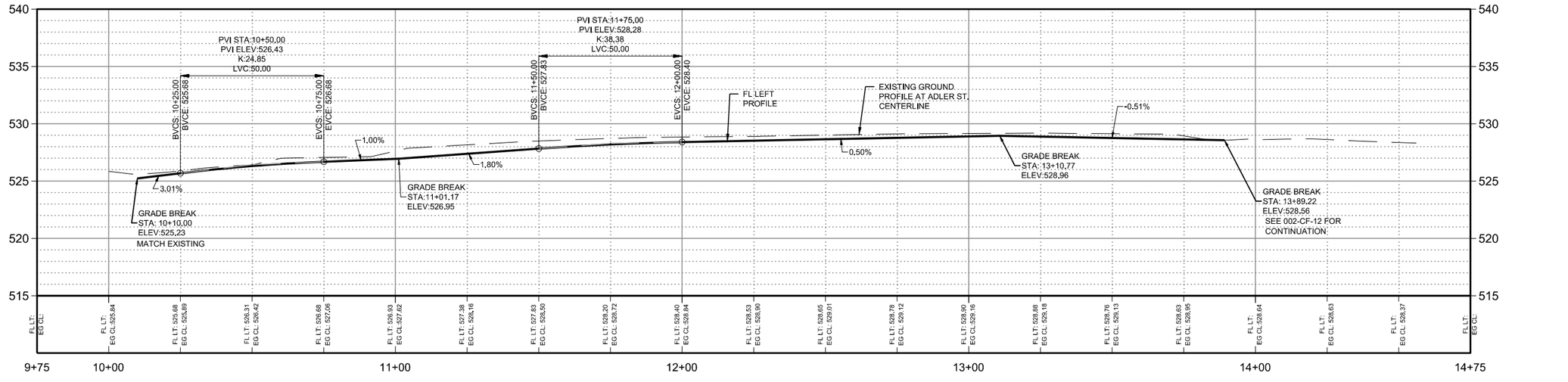
Sheet No. 37

Drawing No. 002-CF-12

1



PLAN



PROFILE

0 20'

GENERAL NOTES:

1. CURVE DATA IS TO TOP BACK OF CURB UNLESS OTHERWISE NOTED.
2. SEE C122 FOR ADLER ST. TYPICAL SECTION.
3. FOR CLARITY, EXISTING AND PROPOSED CONTOURS NOT SHOWN. SEE 002-CG-2 FOR CONTOURS.

PLAN NOTES:

1. FULL DEPTH ASPHALT PAVEMENT. C115
2. PAVEMENT RESTORATION. MATCH EXISTING ELEVATIONS. C112
3. CURB AND GUTTER. C167
4. VALLEY GUTTER. C176
5. FORM CURB AROUND EXISTING ELECTRIC MANHOLE.
6. ORNAMENTAL STEEL SECURITY FENCE. C703
7. PLANT SIGN. 4 (900-AS-24)
8. FLOOD LIGHT. SEE 002-EN-2.

LEGEND

- NEW ASPHALT PAVEMENT
- PAVEMENT RESTORATION

Revision Number	Revision Description	Drawn By	Checked By	Date
01	ADDENDUM NO. 2	MLM	PMS	01/09/2019

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Project Date	DEC 2018

CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

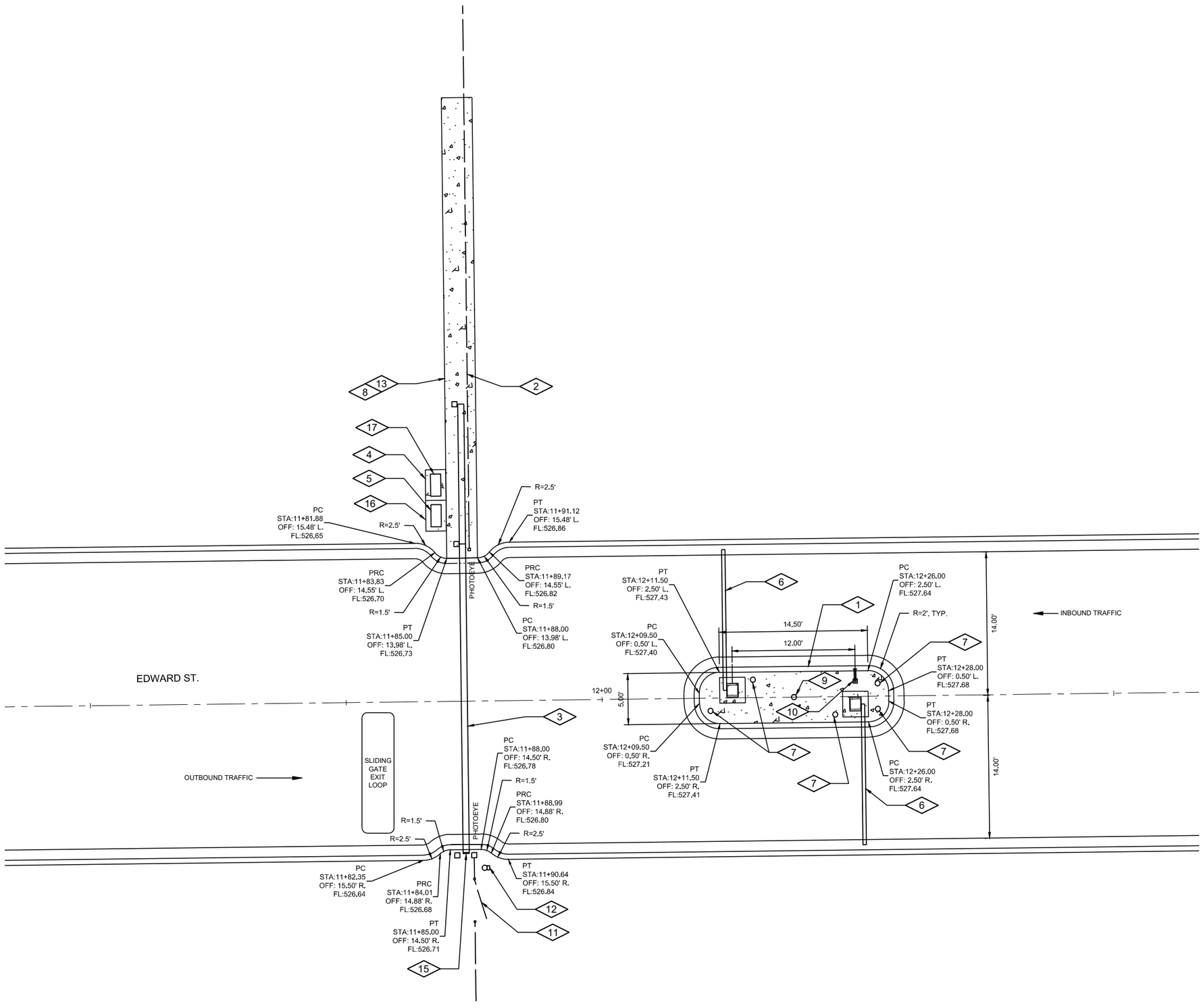
SITE DEVELOPMENT
ADLER ST PAVING PLAN AND PROFILE

DONOHUE

Sheet No. 38

Drawing No. 002-CF-13

1



PLAN

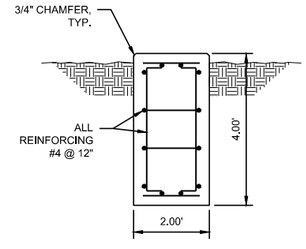
0 5'

GENERAL NOTES:

1. CURVE DATA IS TO TOP BACK OF CURB UNLESS OTHERWISE NOTED.
2. SLIDING GATE OPERATOR, PHOTOEYES, PADDED SENSOR AND SLIDING GATE EXIT LOOP EQUIPMENT SPECIFIED IN SECTION 32 31 19. SEE 009-N-13 FOR ADDITIONAL DETAILS.
3. ARM GATES, GROUND LOOPS, PEDESTAL, CARD READER, CALL BOX INTERCOM, LCP, AND CCTV'S ARE SPECIFIED IN SECTION 28 15 00. SEE 009-N-13 FOR ADDITIONAL DETAILS.

PLAN NOTES:

1. REVERSE PITCH CURB AND GUTTER. C179
2. ORNAMENTAL STEEL FENCE. C703
3. MOTORIZED ORNAMENTAL STEEL HORIZONTAL SLIDE GATE. C706
4. 2' X 3' CONCRETE PAD. C150
5. SLIDE GATE OPERATOR 002-M-1301
6. ENTRANCE ARM GATE 002-G-1311
7. 6" BOLLARD C801
8. 3' WIDE CONCRETE STRIP TO EXTEND FULL LENGTH OF OPEN GATE. C190
9. LIGHT POLE. SEE 002-EN-2.
10. CALL BOX INTERCOM, VIDEO CAMERA, CARD READER AND INTERCOM PEDESTAL.
11. 4-FT MAN GATE C704
12. PROVIDE BOLLARD AS PER DETAIL C801. PROVIDE WALL MOUNTED KNOX BOX SERIES 3200. COORDINATE KNOX BOX KEY WITH JOLIET FIRE DEPARTMENT. MOUNT KNOX BOX NEAR TOP OF BOLLARD WITH 3/8-INCH STAINLESS STEEL GRADE 8 FASTENER AND DRILL HOLES IN BOLLARD AS REQUIRED FOR KNOX BOX INSTALLATION. PROVIDE SHOP DRAWINGS FOR APPROVAL BY ENGINEER.
13. PROVIDE HEAT MAT IN ACCORDANCE WITH SECTION 32 17 43.
14. EXIT ARM GATE 002-G-1312
15. PADDED SENSOR
16. 2' X 3' X 48" DEEP CONCRETE FOOTING. 1 / 002-CF-14
17. CONTROL PANEL 002-LCP-1311



GATE OPERATOR FOOTING DETAIL 1

NTS 002-CF-14

Revision Number	Revision Description	Drawn By	Checked By	Date
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CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

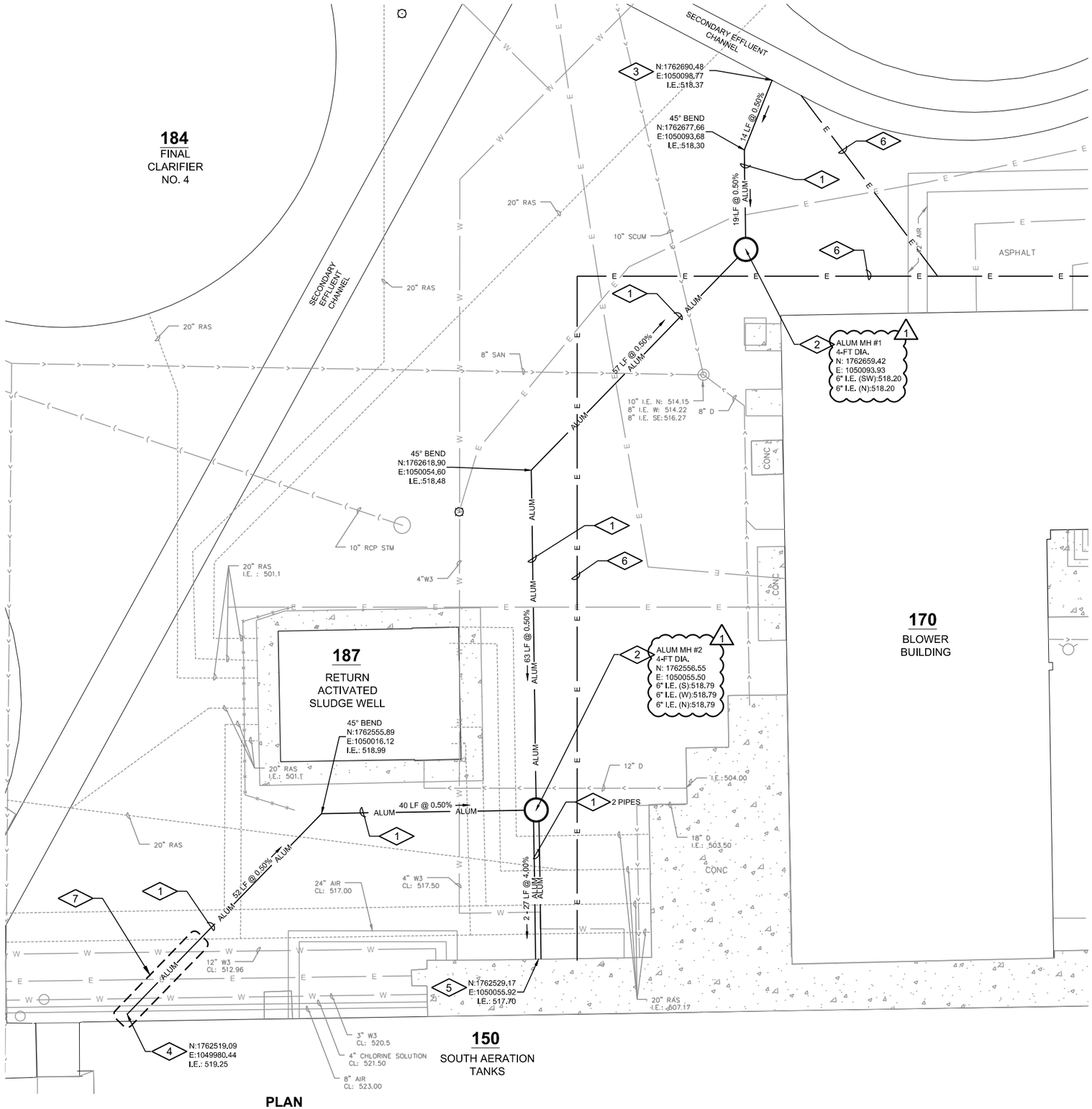
SITE DEVELOPMENT
EDWARD ST GATE ENLARGEMENT

DONOHUE

Sheet No. 39

Drawing No. 002-CF-14

1



GENERAL NOTES:

1. COORDINATES OF MANHOLES SHOWN ARE AT THE CENTER OF MANHOLE.
2. COORDINATES OF FITTINGS SHOWN ARE AT THE POINT OF INTERSECTION AT THE CENTERLINE OF THE TWO INTERSECTING PIPES.
3. SEE DRAWING 125-M-5 FOR ALUM TUBING ROUTING.
4. FOR CLARITY, PROPOSED SURFACE IMPROVEMENTS NOT SHOWN.

PLAN NOTES:

1. 6" SCH 80 PVC CASING PIPE FOR ALUM TUBING.
2. ALUM PIPING ACCESS MANHOLE. C910
3. ALUM DOSING POINT #1 - NORTH AERATION BASIN. M602
4. ALUM DOSING POINT #2 - SOUTH AERATION BASIN. SEE DRAWING 150-M-2 FOR CONTINUATION.
5. SEE DRAWING 150-M-2 FOR CONTINUATION.
6. NEW ELECTRICAL DUCTS. SEE DRAWING 002-EN-1.
7. CONGESTED UTILITY AREA. FIELD ADJUSTMENT OF CASING PIPE VERTICAL ALIGNMENT MAY BE REQUIRED. HEAT TRACE, INSULATE, AND PROVIDE JACKETING AT LOCATIONS WHERE CASING PIPE DEPTH OF BURY IS LESS THAN 5 FEET.

Revision Number	Revision Description	Drawn By	Checked By	Date
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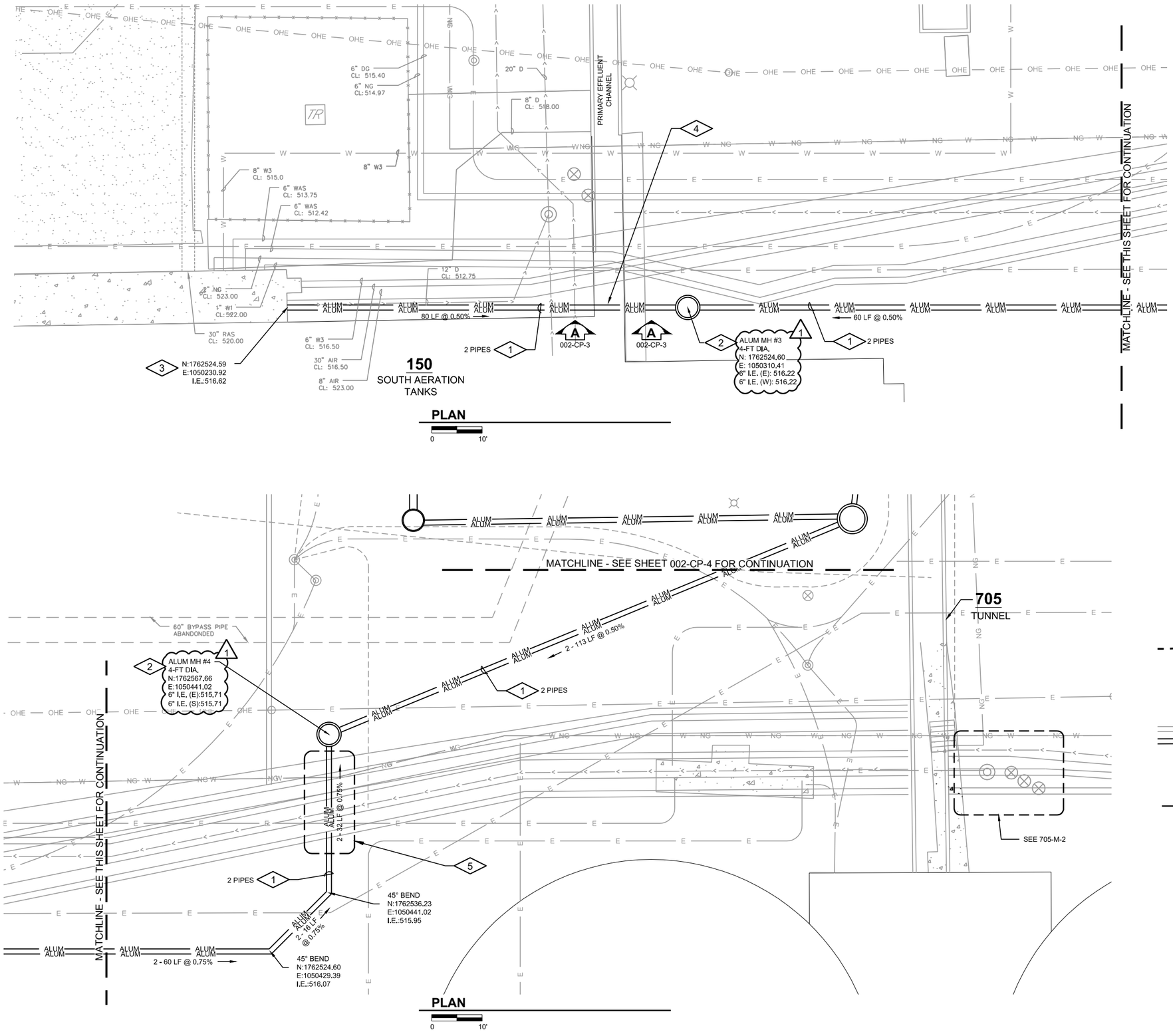
CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

SITE DEVELOPMENT
PLANT SITE PIPING PLAN 1

DONOHUE

Sheet No. 41

Drawing No. 002-CP-2



GENERAL NOTES:

1. COORDINATES OF MANHOLES SHOWN ARE AT THE CENTER OF MANHOLE.
2. COORDINATES OF FITTINGS SHOWN ARE AT THE POINT OF INTERSECTION OF THE PIPES. FOR MULTIPLE PIPES IN TRENCH, COORDINATE IS AT THE CENTERLINE ALIGNMENT OF THE THE PIPES.
3. SEE DRAWING 125-M-5 FOR ALUM TUBING ROUTING.
4. FOR CLARITY, PROPOSED SURFACE IMPROVEMENTS NOT SHOWN.

PLAN NOTES:

1. 6" SCH 80 PVC CASING PIPE FOR ALUM TUBING.
2. ALUM PIPING ACCESS MANHOLE. C910
3. SEE SHEET 150-M-2 FOR CONTINUATION.
4. INSTALL CASING PIPES BENEATH EXISTING PRIMARY EFFLUENT CHANNEL. PRIMARY EFFLUENT CHANNEL TO REMAIN IN PLACE.
5. EXISTING PLANT PIPING. APPROXIMATE CENTERLINE ELEVATION = 517.00. NEW CASING PIPES TO BE ROUTED BENEATH EXISTING PIPING. FIELD ADJUSTMENTS TO VERTICAL ALIGNMENT MAY BE REQUIRED.

Revision Number	Revision Description	Drawn By	Checked By	Date
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Project Date	DEC 2018

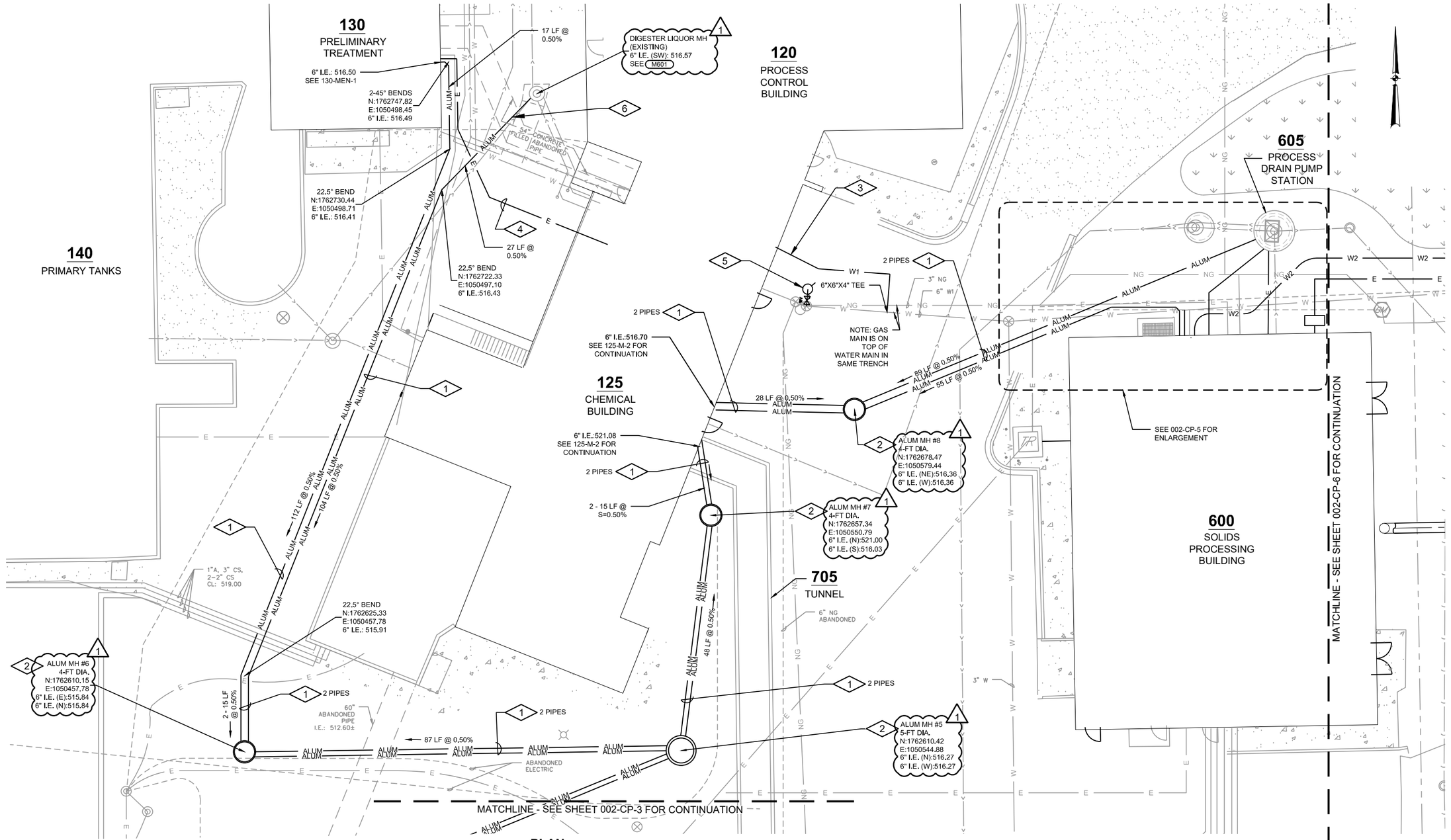
CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

SITE DEVELOPMENT
PLANT SITE PIPING PLAN 2

DONOHUE

Sheet No. 42

Drawing No. 002-CP-3



PLAN

0 10'

GENERAL NOTES:

1. COORDINATES OF MANHOLES SHOWN ARE AT THE CENTER OF MANHOLE.
2. COORDINATES OF FITTINGS SHOWN ARE AT THE POINT OF INTERSECTION AT THE CENTERLINE OF THE TWO INTERSECTING PIPES.
3. MAINTAIN 5' OF COVER OVER WATER LINES.
4. SEE DRAWING 125-M-5 FOR ALUM TUBING ROUTING.
5. CONNECTIONS TO POTABLE (W1) WATER LINES TO BE COMPLETED BY CITY OF JOLIET. CONTRACTOR SHALL COORDINATE WITH CITY OF JOLIET FOR ALL CONNECTIONS TO POTABLE WATER LINES.
6. REMOVE ABANDONED PIPING/UTILITIES AS REQUIRED. CONFIRM ABANDONED STATUS PRIOR TO ANY REMOVALS.

PLAN NOTES:

1. 6" SCH 80 PVC CASING FOR ALUM TUBING.
2. ALUM PIPING ACCESS MANHOLE. C910
3. 4" DUCTILE IRON W1 WATER LINE. PROVIDE FITTINGS TO ACHIEVE ALIGNMENT SHOWN. SEE DRAWING 125-P-1 FOR CONTINUATION AT BUILDING.
4. NEW ELECTRICAL DUCT. SEE DRAWING 002-EN-1.
5. RELOCATED FIRE HYDRANT AND NEW ISOLATION VALVE. PROVIDE 6" DUCTILE IRON WATER LINE AS REQUIRED FOR WATER LINE RELOCATION. C460
6. CORE DRILL THROUGH ABANDONED 54" REINFORCED CONCRETE PIPE FILLED WITH CONCRETE TO ACHIEVE ALUM CASING PIPE ALIGNMENT AT CROSSING.

Revision Number	Revision Description	Drawn By	Checked By	Date
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Approved By	PMS
Filename	002CP04.dwg
Project No.	13320
Project Date	DEC 2018

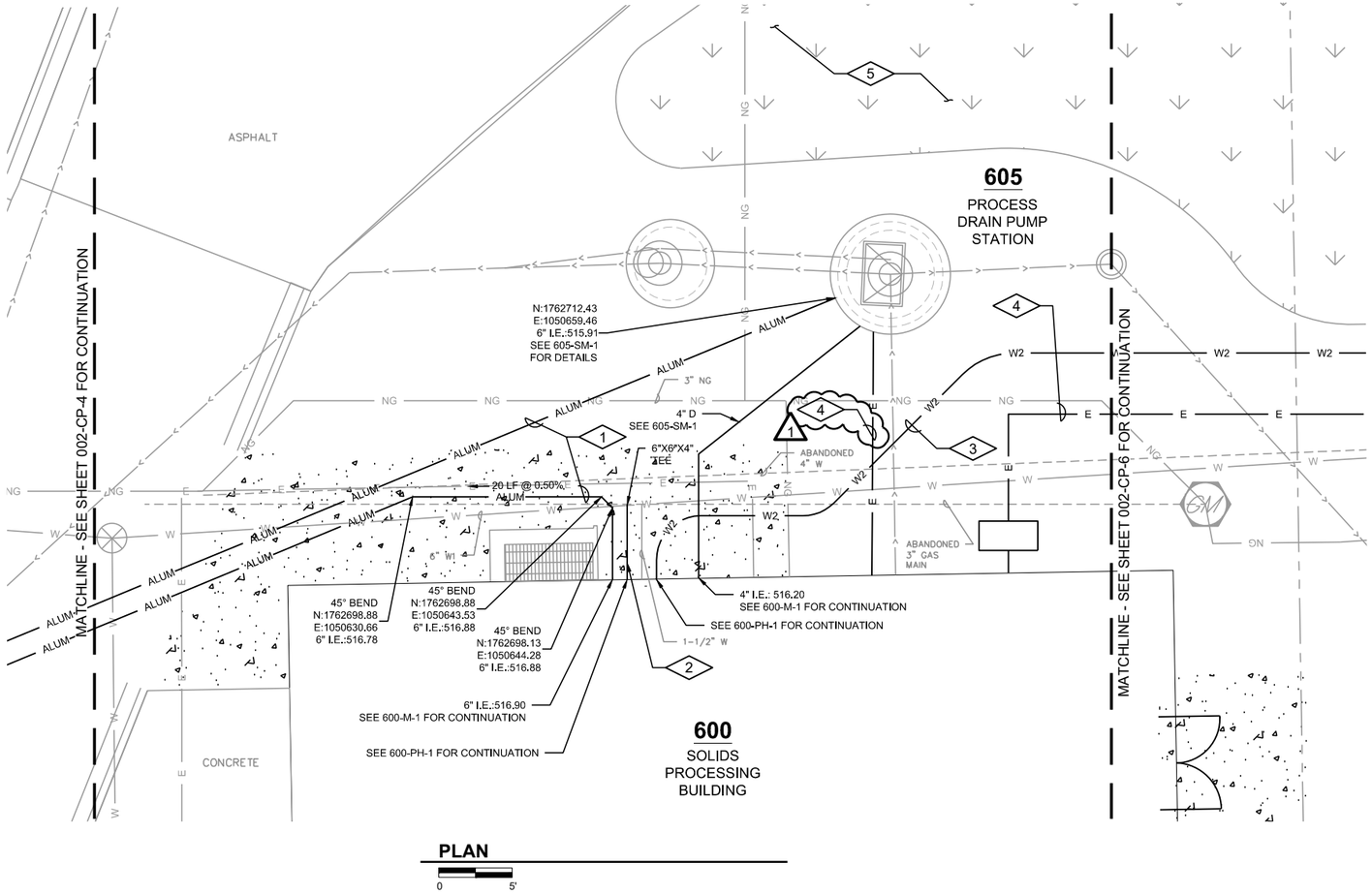
CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

SITE DEVELOPMENT
PLANT SITE PIPING PLAN 3

DONOHUE

Sheet No. 43

Drawing No. 002-CP-4



PLAN

0 5'

GENERAL NOTES:

1. COORDINATES OF MANHOLES SHOWN ARE AT THE CENTER OF MANHOLE.
2. COORDINATES OF FITTINGS SHOWN ARE AT THE POINT OF INTERSECTION AT THE CENTERLINE OF THE TWO INTERSECTING PIPES.
3. MAINTAIN 5' OF COVER OVER WATER LINES.
4. SEE DRAWING 125-M-5 FOR ALUM TUBING ROUTING.
5. CONNECTIONS TO POTABLE (W1) WATER LINES TO BE COMPLETED BY CITY OF JOLIET. CONTRACTOR SHALL COORDINATE WITH CITY OF JOLIET FOR ALL CONNECTIONS TO POTABLE WATER LINES.
6. FOR CLARITY, PROPOSED SURFACE IMPROVEMENTS NOT SHOWN.

PLAN NOTES:

1. 6" SCH 80 PVC CASING FOR ALUM TUBING.
2. 4" DUCTILE IRON W1 WATER LINE. SEE DRAWING 600-PH-1 FOR CONTINUATION AT BUILDING.
3. 1-1/2" COPPER W2 WATER LINE. FIELD BEND TO ACHIEVE ALIGNMENT SHOWN. RADIUS SHALL BE LARGER THAN MANUFACTURER'S MINIMUM RECOMMENDED BENDING RADIUS.
4. NEW ELECTRICAL DUCT. SEE DRAWING 002-EN-1.
5. PROTECT RAIN GARDEN.

Revision Number	Revision Description	Drawn By	Checked By	Date
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Project Date	DEC 2018

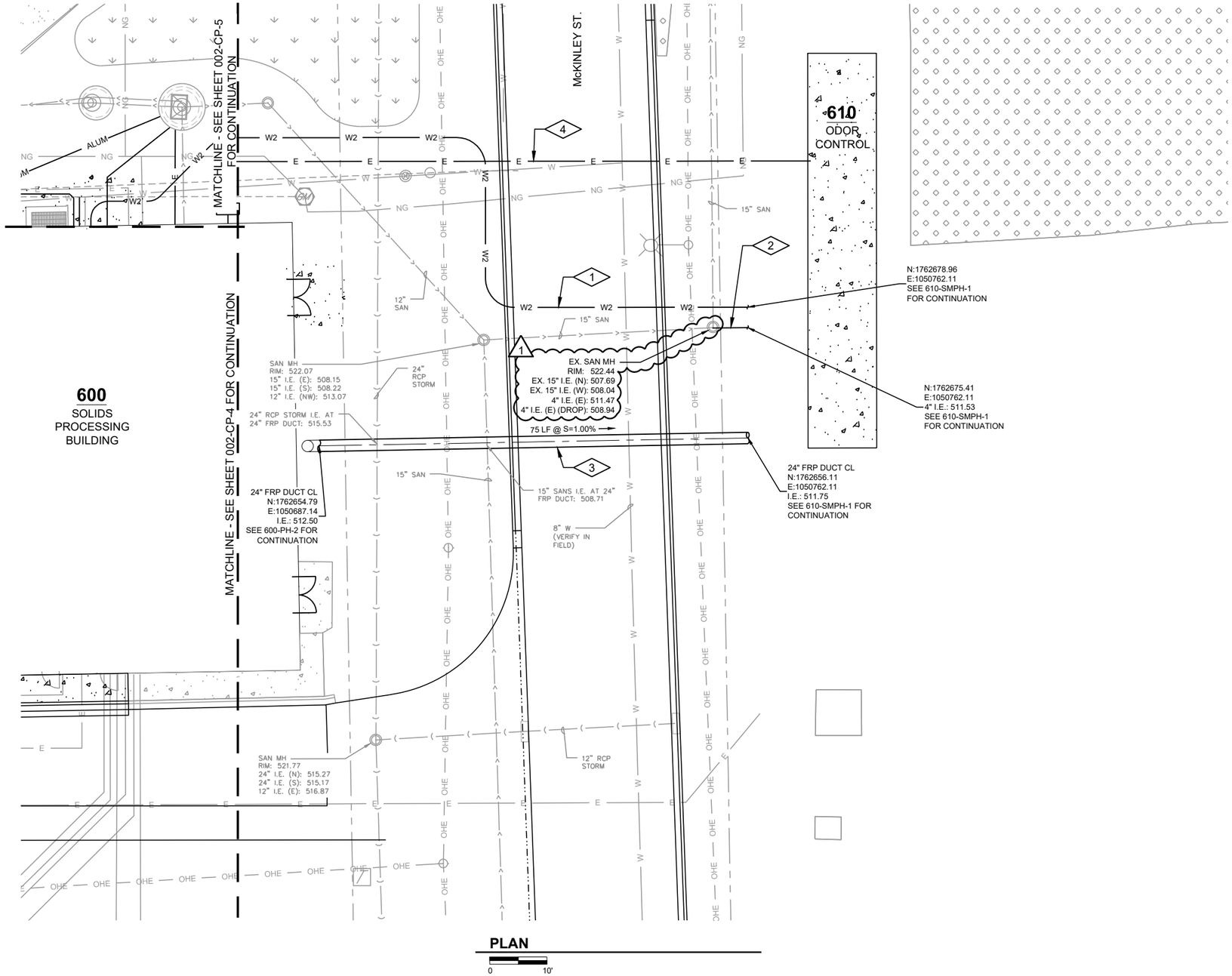
CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

SITE DEVELOPMENT
STRUCTURE 600 SITE PIPING DETAIL

DONOHUE

Sheet No. 44

Drawing No. 002-CP-5



PLAN

0 10'

GENERAL NOTES:

1. MAINTAIN 5' OF COVER OVER WATER LINES.

PLAN NOTES:

1. 1-1/2" COPPER W2 WATER LINE. FIELD BEND TO ACHIEVE ALIGNMENT SHOWN. RADIUS SHALL BE LARGER THAN MANUFACTURER'S MINIMUM RECOMMENDED BENDING RADIUS.
2. 4" SANITARY SEWER LINE. PROVIDE DROP CONNECTION TO EXISTING SANITARY SEWER MANHOLE. C292
3. 24" FRP DUCT. MAINTAIN 1' MINIMUM VERTICAL CLEARANCE BETWEEN EXISTING 24" RCP STORM AND 8" WATER MAIN.
4. NEW ELECTRICAL DUCT. SEE 002-EN-1.

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CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

SITE DEVELOPMENT
PLANT SITE PIPING PLAN 4

DONOHUE

Sheet No. 45

Drawing No. 002-CP-6

EDWARDS ST.

ADLER ST.

900
ADMINISTRATION
BUILDING

NEW SITE LIGHTING, TYP.
SEE 002-EN-2.

SAN MH 4'
RIM: 528.72
10" I.E. (NE): 518.32
10" I.E. (S): 518.32

STORM MH 4'
RIM: 528.86
15" I.E. (N): 520.76
15" I.E. (S): 520.61

15" STORM

EX. STM IE @ SANS : 521.63±
EX. STM TOP OF PIPE: 523.15±

N:1763560.84
E:1051177.56

COORDINATE
LOCATION WITH
900-H-4

COORDINATE
LOCATION WITH
900-P-4

4" I.E.: 526.50
COORDINATE
LOCATION WITH
900-P-8

45 LF @ S=1.00%

MAINTAIN 10' MINIMUM
SEPARATION BETWEEN
WATER AND SEWER LINE

C233 45° BEND
N:1763527.79
E:1051083.56
I.E.: 526.05

24 LF @ S=1.00%

98 LF @ S =1.00%

59 LF @ S =1.00%

42 LF

C233 45° BEND
N:1763511.01
E:1051100.34
I.E.: 525.81

C230 N:1763511.01
E:1051197.84
I.E.: 524.83

22.5° BEND
N:1763511.01
E:1051254.00
I.E.: 524.24

N:1763483.51
E:1051286.67

3.00'

8"X8"X6" TEE

N:1763482.70
E:1051296.13
RIM:528.34
I.E. (N):521.71 (ME)
I.E. (S): 521.56 (ME)
I.E. (W): 523.37

EX. 10" I.E.: 518.98±

10" VCP SAN

8" DIP W

SAN MH 4'
RIM: 528.48
I.E. (N): 519.13
I.E. (S): 519.28
I.E. (W): 519.18

DETENTION POND
OUTFALL PIPE.
SEE GRADING
SHEETS.

120 LF @ S =0.50%

52 LF @ S =0.50%

40 LF @ S =0.50%

22.5° BEND
N:1763451.27
E:1051255.61
I.E.: 523.63

11.25° BEND
N:1763440.72
E:1051217.03
I.E.: 523.83

11.25° BEND
N:1763432.25
E:1051097.33
I.E.: 524.43

115 LF @ S =0.50%

N:1763401.91
E:1050986.41
I.E.: 525.00

STORM MH 4'
RIM: 528.34
I.E. (N): 519.84
I.E. (SE): 522.54
I.E. (W): 522.79
I.E. (SW): 522.74
I.E. (S): 521.84

PLAN

0 30'

GENERAL NOTES:

1. MAINTAIN 5' OF COVER OVER WATER LINES.

PLAN NOTES:

1. 4" SDR 26 PVC SANITARY SEWER SERVICE LINE.
2. 4" DUCTILE IRON WATER LINE. PROVIDE FITTINGS AS REQUIRED TO ACHIEVE ALIGNMENT SHOWN.
3. CONNECTION TO EXISTING WATER MAIN TO BE COMPLETED BY CITY OF JOLIET. CONTRACTOR SHALL COORDINATE WITH CITY OF JOLIET FOR WATER LINE CONNECTION.
4. NEW FIRE HYDRANT AND ISOLATION VALVE. C460
5. 6" DUCTILE IRON WATER LINE.
6. CONNECT TO EXISTING SANITARY SEWER MAIN. C252
7. DUCTILE IRON FIRE PROTECTION PIPING. MAINTAIN MINIMUM BURY DEPTH OF 4'-0".
8. FREE STANDING FIRE DEPARTMENT CONNECTION CONFORMING TO LOCAL FIRE DEPARTMENT STANDARDS. F100
9. ELECTRICAL DUCT. SEE 002-EN-2.
10. NATURAL GAS SERVICE LINE TO BE INSTALLED BY LOCAL NATURAL GAS UTILITY (NICOR). CONTRACTOR SHALL COORDINATE WITH UTILITY (NICOR) FOR NEW GAS SERVICE LINE, METER, AND REGULATING VALVE FOR 533 CFH AT 2 PSI.
11. DOUBLE CLEANOUT. LOCATE 5' FROM BUILDING. C266
12. 4" WATER VALVE. C405
13. 6" PERFORATED SDR 35 PVC PIPE WITH HOLES POINTED DOWNWARD. SEE 999-CL3 FOR DETENTION POND SECTION.
14. 6" UNPERFORATED SDR 35 PVC PIPE.
15. 4' DIAMETER STORM MANHOLE. C380
16. UNDERDRAIN CLEANOUT PORT. PLACE WITHIN DETENTION POND FOOTPRINT AT SPACING OF 150' MAXIMUM. C390

Revision Number	Revision Description	Drawn By	Checked By	Date
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CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

SITE DEVELOPMENT
STRUCTURE 900 SITE PIPING PLAN

DONOHUE

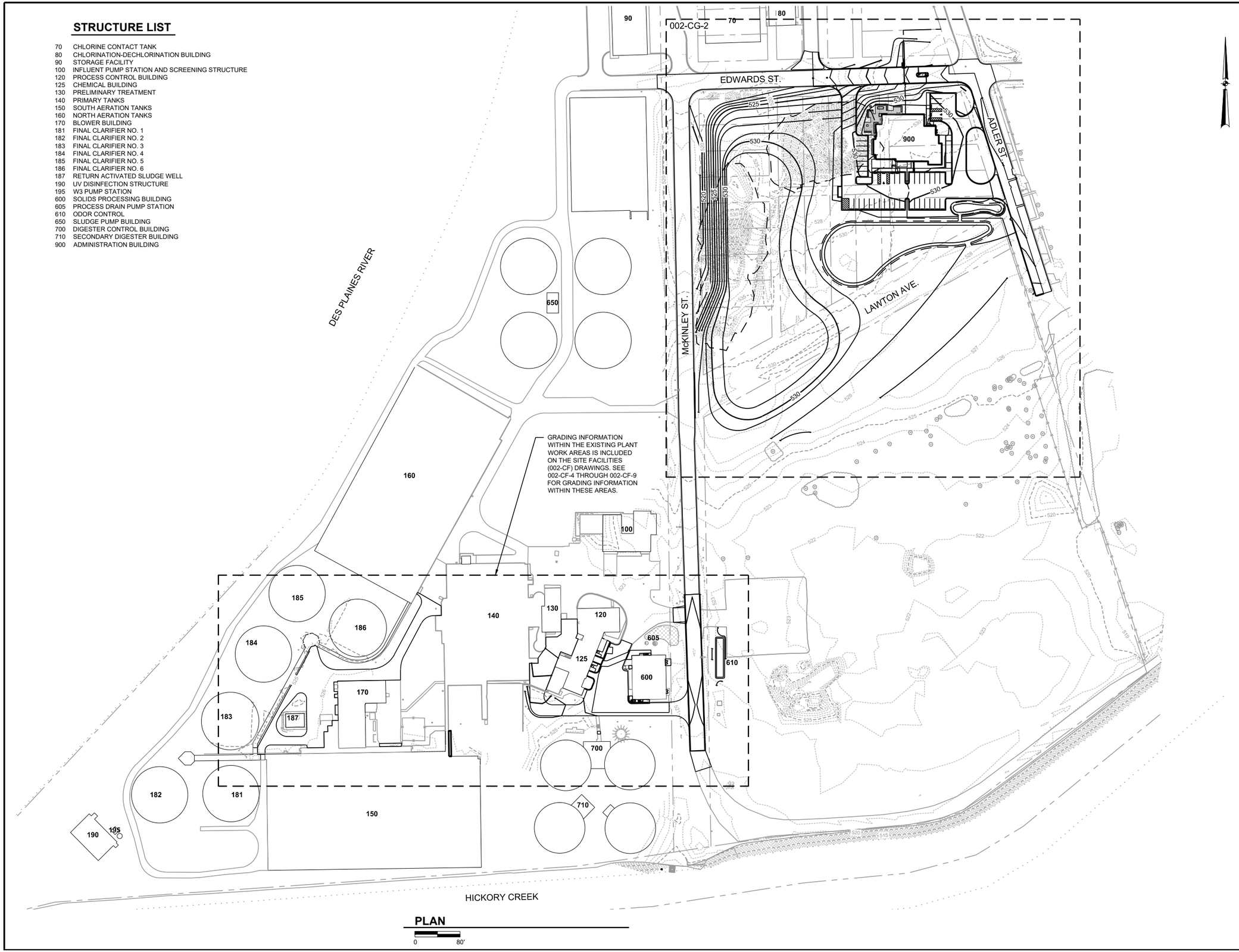
Sheet No. 46

Drawing No. 002-CP-7

1

STRUCTURE LIST

70	CHLORINE CONTACT TANK
80	CHLORINATION-DECHLORINATION BUILDING
90	STORAGE FACILITY
100	INFLUENT PUMP STATION AND SCREENING STRUCTURE
120	PROCESS CONTROL BUILDING
125	CHEMICAL BUILDING
130	PRELIMINARY TREATMENT
140	PRIMARY TANKS
150	SOUTH AERATION TANKS
160	NORTH AERATION TANKS
170	BLOWER BUILDING
181	FINAL CLARIFIER NO. 1
182	FINAL CLARIFIER NO. 2
183	FINAL CLARIFIER NO. 3
184	FINAL CLARIFIER NO. 4
185	FINAL CLARIFIER NO. 5
186	FINAL CLARIFIER NO. 6
187	RETURN ACTIVATED SLUDGE WELL
190	UV DISINFECTION STRUCTURE
195	W3 PUMP STATION
600	SOLIDS PROCESSING BUILDING
605	PROCESS DRAIN PUMP STATION
610	ODOR CONTROL
650	SLUDGE PUMP BUILDING
700	DIGESTER CONTROL BUILDING
710	SECONDARY DIGESTER BUILDING
900	ADMINISTRATION BUILDING



PLAN

0 80'

Revision Number	Revision Description	Drawn By	Checked By	Date
01	ADDENDUM NO. 2	MLM	PMS	01/09/2019

Designed By	MLM
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CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

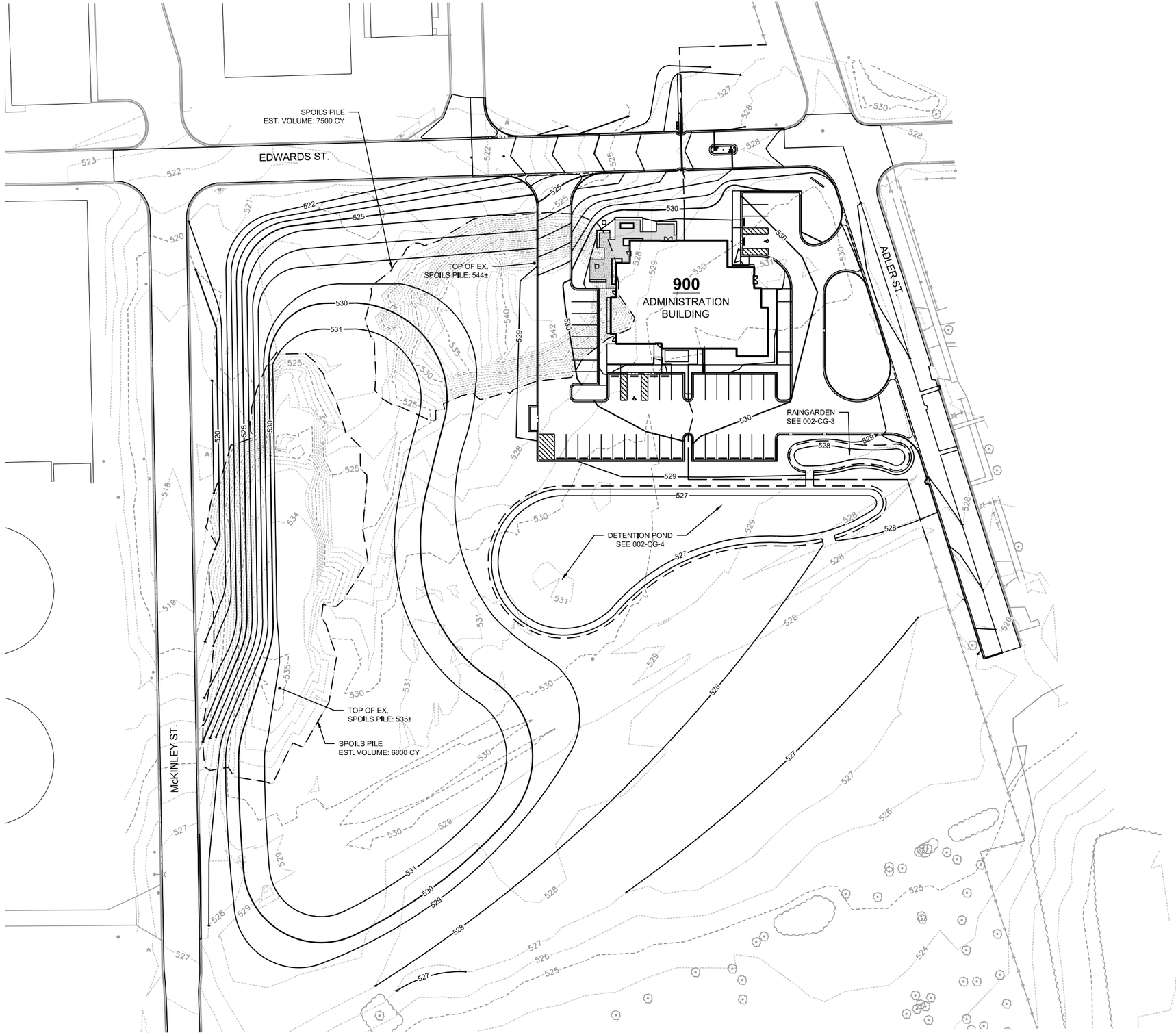
SITE DEVELOPMENT
SITE GRADING KEY PLAN

DONOHUE

Sheet No. 47

Drawing No. 002-CG-1

1



PLAN

0 40'

GENERAL NOTES:

1. ESTIMATED MATERIAL VOLUMES FOR THE TOPOGRAPHY AS SHOWN ARE AS FOLLOWS:

   CUT: 10,700 BCY
   FILL: 12,400 CCY
   NET (FILL): 1,700 CCY

   QUANTITIES DO NOT INCLUDE ANY SHRINK/SWELL FACTORS. THESE VALUES ARE ESTIMATES AND ARE PROVIDED FOR INFORMATION ONLY. NOTE THAT THESE EARTHWORK VOLUMES ARE COMPUTED TO THE FINAL FINISHED GROUND SURFACE AND THEREFORE REPRESENT THE TOTAL QUANTITY OF ALL MATERIALS (SOIL, CONCRETE, ASPHALT, BASE COURSE, ETC.) REQUIRED TO ACHIEVE THE GRADING SHOWN. THESE VALUES DO NOT ACCOUNT FOR ANY REQUIRED OVEREXCAVATION OR REMOVAL OF UNSUITABLE MATERIALS.

2. CONTRACTOR IS ADVISED THAT ONGOING CONSTRUCTION IS OCCURRING AT THE SITE, AND MATERIAL CONTINUES TO BE ADDED TO THE SPOILS PILES SHOWN. EXISTING TOPOGRAPHIC INFORMATION SHOWN IS FROM NOVEMBER 2018. EXCESS MATERIAL REMOVED FROM SITE SHALL BE DISPOSED OF AT A SUBTITLE D LANDFILL. REMOVAL OF THIS MATERIAL WILL BE PAID ON A UNIT PRICE BASIS. REFER TO SECTION 01 22 00.

3. CONTRACTOR SHALL PROVIDE ONE TOPOGRAPHIC SURVEY OF AREA PRIOR TO BEGINNING ANY WORK, AND ONE TOPOGRAPHIC SURVEY FOLLOWING THE COMPLETION OF ALL EARTHMOVING ACTIVITIES FOR THE PURPOSES OF COMPUTING EXCESS MATERIAL REMOVED FROM THE SITE. SURVEYS SHALL INCLUDE A TIN SURFACE AND SHALL BE PROVIDED IN A FORMAT COMPATIBLE FOR USE IN AUTOCAD CIVIL 3D 2018. EARTHWORK QUANTITIES WILL BE COMPUTED USING A TIN VOLUME SURFACE GENERATED IN AUTOCAD CIVIL 3D 2018. PAYMENT FOR REMOVAL OF EXCESS MATERIAL WILL BE BASED ON COMPUTED IN-PLACE QUANTITIES.

4. SEE SHEET 002-CG-3 AND 002-CG-4 FOR ENLARGED GRADING PLANS OF THE STRUCTURE 900 SITE.

Revision Number	Revision Description	Drawn By	Checked By	Date
01	ADDENDUM NO. 2	MLM	PMS	01/09/2019

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CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

SITE DEVELOPMENT
STRUCTURE 900 SITE OVERALL GRADING PLAN

DONOHUE

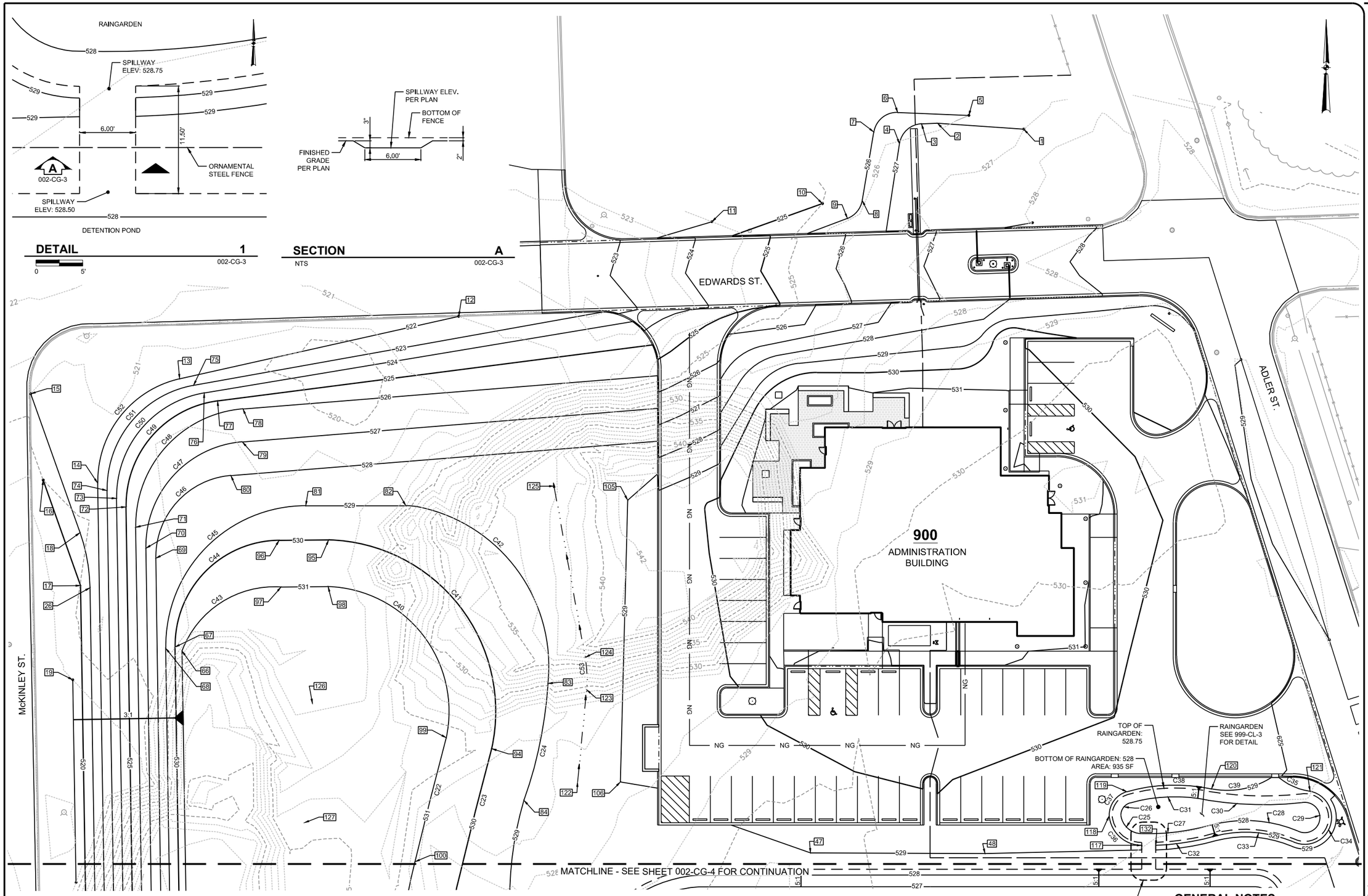
Sheet No. 48

Drawing No. 002-CG-2

1

DETAIL 1
002-CG-3
0 5'

SECTION A
NTS
002-CG-3



PLAN
0 20'

1 002-CG-3 SPILLWAY TO DETENTION POND

GENERAL NOTES:

1. SEE 002-CG-6 AND 002-CG-7 FOR GRADING INFORMATION WITHIN THE STRUCTURE 900 PARKING LOT.
2. SEE SHEET 002-CG-5 FOR POINT AND CURVE DATA.

Revision Number	Revision Description	Drawn By	Checked By	Date
01	ADDENDUM NO. 2	MLM	PMS	01/09/2019

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Project Date	DEC 2018

CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

SITE DEVELOPMENT
GRADING PLAN 1

DONOHUE

Sheet No. 49

Drawing No. 002-CG-3

1

MATCHLINE - SEE SHEET 002-CG-3 FOR CONTINUATION

UNDERDRAIN CLEANOUT PORT, TYP. SEE 002-CP-7

RAINGARDEN SPILLWAY SEE 002-CG-3

SPILLWAY ELEV: 528.00

DETENTION POND SEE 999-CL-3 FOR DETAIL

TOP OF DETENTION POND: 528.50

BOTTOM OF DETENTION POND: 527 AREA:15,630 SF

GRADE AROUND EXISTING ELECTRIC MANHOLE

McKINLEY ST.

GENERAL NOTES:

1. SEE SHEET 002-CG-5 FOR POINT AND CURVE DATA.

PLAN

0 20'

Revision Number	Revision Description	Drawn By	Checked By	Date
01	ADDENDUM NO. 2	MLM	PMS	01/09/2019

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CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

SITE DEVELOPMENT
GRADING PLAN 2

DONOHUE

Sheet No. 50

Drawing No. 002-CG-4

1

POINT TABLE

Point #	Elevation	Northing	Easting
1	527.00	1763780.14	1051150.68
2	527.00	1763782.65	1051113.72
3	527.00	1763782.38	1051106.88
4	527.00	1763773.88	1051097.39
5	526.00	1763786.01	1051127.15
6	526.00	1763787.29	1051096.65
7	526.00	1763778.95	1051086.37
8	526.00	1763749.61	1051081.45
9	526.00	1763741.91	1051075.10
10	525.00	1763748.24	1051064.38
11	524.00	1763740.49	1051017.04
12	522.00	1763699.95	1050908.56
13	522.00	1763673.22	1050789.06
14	522.00	1763628.58	1050753.89
15	521.00	1763666.81	1050725.23
16	520.00	1763629.83	1050730.56
17	520.00	1763584.67	1050746.60
18	521.00	1763607.35	1050746.35
19	519.00	1763544.32	1050743.25
20	519.00	1763457.54	1050744.66

POINT TABLE

Point #	Elevation	Northing	Easting
21	520.00	1763414.17	1050745.36
22	520.00	1763423.71	1050749.21
23	521.00	1763342.98	1050737.79
24	521.00	1763374.82	1050750.62
25	521.00	1763391.60	1050753.73
26	521.00	1763583.74	1050750.61
27	522.00	1763339.86	1050744.14
28	523.00	1763299.81	1050737.25
29	524.00	1763278.59	1050736.25
30	525.00	1763265.72	1050736.07
31	526.00	1763268.70	1050741.64
32	527.00	1763269.45	1050746.29
33	528.00	1763124.11	1050740.75
34	528.00	1763173.78	1050740.85
35	528.00	1763256.73	1050748.90
36	528.00	1763278.29	1050754.29
37	529.00	1763138.99	1050760.18
38	529.00	1763250.64	1050753.63
39	529.00	1763279.67	1050759.33
40	530.00	1763165.73	1050767.54

POINT TABLE

Point #	Elevation	Northing	Easting
41	530.00	1763251.89	1050763.62
42	531.00	1763167.48	1050787.47
43	531.00	1763251.95	1050783.62
44	530.00	1763275.72	1050767.42
45	531.00	1763269.43	1050786.41
46	523.00	1763334.80	1050754.83
47	529.00	1763470.18	1051059.35
48	529.00	1763469.94	1051134.06
49	528.50	1763463.17	1051011.22
50	528.50	1763348.88	1050995.20
51	528.50	1763363.02	1051056.38
52	529.00	1763332.12	1050781.04
53	530.00	1763334.28	1050786.82
54	531.00	1763326.97	1050795.34
55	531.00	1763360.69	1050793.23
56	530.00	1763357.02	1050790.30
57	529.00	1763359.54	1050786.26
58	528.50	1763417.05	1051178.12
59	528.50	1763438.32	1051256.64
60	528.50	1763463.20	1051249.97

POINT TABLE

Point #	Elevation	Northing	Easting
61	527.00	1763455.70	1051249.96
62	524.00	1763363.44	1050766.19
63	523.00	1763366.79	1050762.14
64	522.00	1763365.00	1050754.59
66	531.00	1763556.71	1050790.04
67	530.00	1763558.29	1050787.03
68	529.00	1763557.85	1050783.04
69	528.00	1763596.36	1050778.81
70	527.00	1763600.63	1050774.55
71	526.00	1763609.65	1050770.20
72	525.00	1763618.38	1050766.05
73	524.00	1763622.02	1050761.99
74	523.00	1763625.38	1050757.94
75	523.00	1763670.40	1050794.99
76	524.00	1763667.13	1050799.58
77	525.00	1763663.74	1050805.30
78	526.00	1763660.30	1050816.19
79	527.00	1763646.18	1050815.92
80	528.00	1763631.76	1050810.99
81	529.00	1763618.82	1050843.03

POINT TABLE

Point #	Elevation	Northing	Easting
82	529.00	1763618.82	1050885.96
83	529.00	1763542.71	1050946.82
84	529.00	1763492.69	1050936.50
85	529.00	1763361.37	1050961.19
86	529.00	1763331.06	1050999.43
87	529.00	1763259.31	1051020.34
88	529.00	1763094.47	1050826.64
89	530.00	1763117.01	1050853.54
90	530.00	1763209.86	1050974.56
91	530.00	1763312.99	1050959.84
92	530.00	1763379.38	1050909.23
93	530.00	1763461.51	1050909.23
94	530.00	1763514.83	1050922.68
95	530.00	1763604.21	1050852.85
96	530.00	1763604.02	1050831.63
97	531.00	1763584.03	1050832.47
98	531.00	1763584.20	1050852.64
99	531.00	1763519.51	1050903.23
100	531.00	1763466.38	1050889.83
101	531.00	1763373.93	1050889.99

POINT TABLE

Point #	Elevation	Northing	Easting
102	531.00	1763296.32	1050948.78
103	531.00	1763222.72	1050959.24
104	531.00	1763135.00	1050844.80
105	529.00	1763621.21	1050980.95
106	529.00	1763500.54	1050977.86
107	528.00	1763077.55	1050869.24
108	527.00	1763073.88	1050885.52
109	527.00	1763088.63	1050938.61
110	527.00	1763149.79	1051062.83
111	527.00	1763361.71	1051287.76
112	527.00	1763444.71	1051252.71
113	527.00	1763424.55	1051178.48
114	527.00	1763368.13	1051050.88
115	527.00	1763355.97	1050997.67
116	527.00	1763455.67	1051011.47
117	529.00	1763473.42	1051201.19
118	529.00	1763486.07	1051187.24
119	529.00	1763496.40	1051194.88
120	529.00	1763497.56	1051231.08
121	529.00	1763496.61	1051273.30

POINT TABLE

Point #	Elevation	Northing	Easting
122	528.75	1763500.52	1050959.52
123	528.55	1763540.11	1050963.36
124	528.45	1763553.89	1050962.78
125	528.10	1763627.26	1050949.41
126	531.50	1763534.14	1050845.92
127	531.50	1763483.09	1050842.43
128	531.50	1763254.75	1050864.68
129	531.50	1763353.79	1050843.76
130	528.50	1763463.19	1051201.19
131	528.50	1763463.19	1051207.19
132	529.00	1763473.44	1051207.19

CURVE TABLE

CURVE NO.	LENGTH (FT)	RADIUS (FT)	Δ	CHORD DIRECTION	CHORD LENGTH (FT)
C1	15.46	5.84	151° 39' 53"	S14° 02' 00"E	11.33
C2	78.31	119.52	37° 32' 31"	S74° 48' 17"W	76.92
C3	144.35	160.24	51° 36' 47"	S66° 08' 56"W	139.51
C4	140.18	51.44	156° 07' 49"	N7° 53' 03"E	100.66
C5	310.04	1113.76	15° 56' 58"	N46° 42' 26"E	309.04
C6	488.87	1141.17	24° 32' 42"	N45° 25' 07"E	485.14
C7	77.43	40.00	110° 54' 15"	N60° 28' 13"W	65.89
C8	116.14	60.00	110° 54' 15"	N60° 28' 13"W	98.84
C9	92.72	50.00	106° 14' 47"	N56° 11' 01"W	79.99
C10	145.17	360.11	23° 05' 51"	S52° 31' 44"W	144.19
C11	153.58	380.11	23° 08' 59"	S52° 30' 11"W	152.54
C12	259.56	372.89	39° 52' 53"	S49° 36' 11"W	254.35
C13	83.36	50.88	93° 52' 47"	S8° 05' 09"E	74.34
C14	117.01	70.88	94° 35' 35"	S8° 07' 19"E	104.17
C15	82.78	53.38	88° 51' 05"	S16° 15' 06"E	74.73

CURVE TABLE

CURVE NO.	LENGTH (FT)	RADIUS (FT)	Δ	CHORD DIRECTION	CHORD LENGTH (FT)
C16	48.92	199.12	14° 04' 34"	S51° 36' 11"E	48.80
C17	85.27	119.91	40° 44' 38"	S37° 19' 05"E	83.48
C18	99.44	139.91	40° 43' 31"	S37° 08' 43"E	97.36
C19	138.76	146.31	54° 20' 30"	S10° 38' 42"E	133.62
C20	83.04	162.04	29° 21' 42"	S0° 00' 00"E	82.13
C21	93.47	182.04	29° 25' 10"	S0° 05' 40"E	92.45
C22	54.80	2502.95	1° 15' 16"	S14° 09' 06"W	54.80
C23	54.99	2482.95	1° 16' 08"	S14° 09' 16"W	54.99
C24	51.25	181.03	16° 13' 10"	S11° 39' 08"W	51.08
C25	13.05	8.96	83° 25' 34"	N48° 31' 32"W	11.93
C26	7.10	5.50	73° 58' 13"	N37° 13' 00"E	6.62
C27	30.53	100.50	17° 24' 23"	S82° 46' 21"W	30.41
C28	37.43	57.75	37° 08' 11"	N85° 48' 24"W	36.78
C29	24.93	6.50	219° 45' 32"	S7° 20' 08"W	12.23
C30	39.61	153.50	14° 47' 07"	S88° 35' 38"E	39.50

CURVE TABLE

CURVE NO.	LENGTH (FT)	RADIUS (FT)	Δ	CHORD DIRECTION	CHORD LENGTH (FT)
C31	34.22	70.00	28° 00' 27"	N88° 12' 20"E	33.88
C32	25.91	105.50	14° 04' 15"	S81° 06' 17"W	25.84
C33	33.89	52.73	36° 49' 33"	N85° 49' 05"W	33.31
C34	39.05	11.50	194° 32' 11"	S18° 49' 11"W	22.82
C35	14.87	26.69	31° 54' 30"	S66° 16' 38"E	14.67
C36	20.67	13.96	84° 50' 03"	N47° 47' 54"W	18.83
C37	13.83	10.50	75° 27' 36"	N36° 28' 19"E	12.85
C38	36.58	75.00	27° 56' 48"	N88° 10' 31"E	36.22
C39	26.91	35.26	43° 43' 41"	N79° 07' 42"E	26.26
C40	93.59	53.54	100° 09' 45"	S38° 01' 34"E	82.12
C41	129.52	73.54	100° 54' 54"	S38° 00' 07"E	113.42
C42	102.52	69.66	84° 18' 53"	S36° 08' 10"E	93.51
C43	54.06	42.28	73° 16' 10"	N57° 13' 26"E	50.45
C44	71.02	45.00	90° 25' 25"	N44° 16' 55"E	63.87
C45	95.22	60.00	90° 55' 47"	N44° 32' 06"E	85.54

CURVE TABLE

CURVE NO.	LENGTH (FT)	RADIUS (FT)	Δ	CHORD DIRECTION	CHORD LENGTH (FT)
C46	52.67	35.00	86° 13' 46"	N42° 16' 34"E	47.84
C47	67.76	45.00	86° 16' 28"	N42° 15' 13"E	61.54
C48	75.35	50.00	86° 20' 40"	N42° 14' 33"E	68.42
C49	65.65	45.00	83° 35' 07"	N40° 51' 46"E	59.98
C50	63.97	45.00	81° 27' 16"	N39° 47' 51"E	58.72
C51	63.43	45.00	80° 45' 50"	N39° 27' 08"E	58.31
C52	61.52	45.00	78° 19' 30"	N38° 13' 58"E	56.84
C53	13.84	50.00	15° 51' 25"	N2° 23' 59"W	13.79

Revision Number	Revision Description	Drawn By	Checked By	Date
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CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

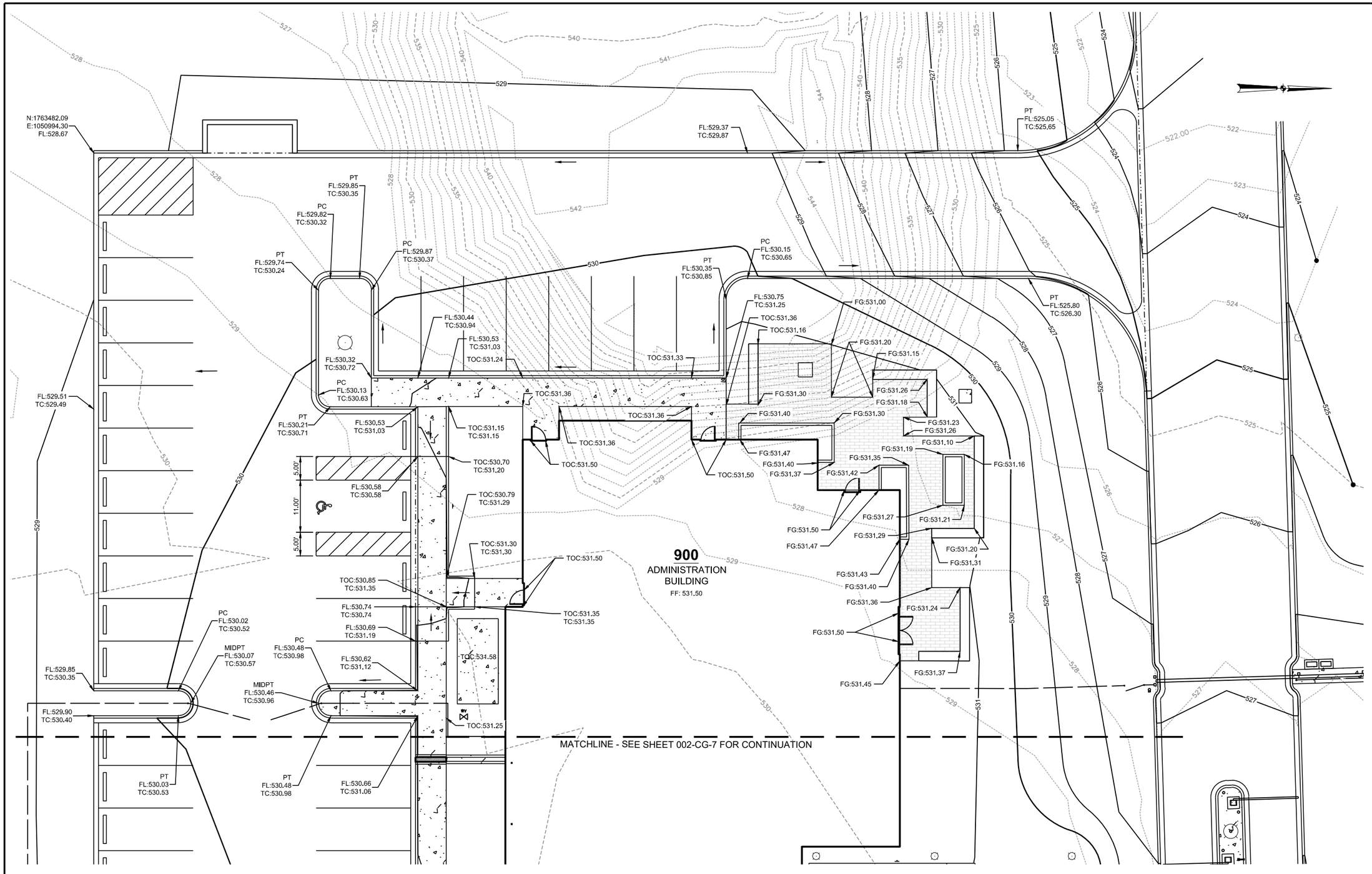
SITE DEVELOPMENT
GRADING POINT DATA

DONOHUE

Sheet No. 50A

Drawing No. 002-CG-5

1



PLAN

0 10'

GENERAL NOTES:

1. SEE 002-CF-10 FOR LAYOUT INFORMATION.

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01	ADDENDUM NO. 2	MLM	PMS	01/09/2019

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CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

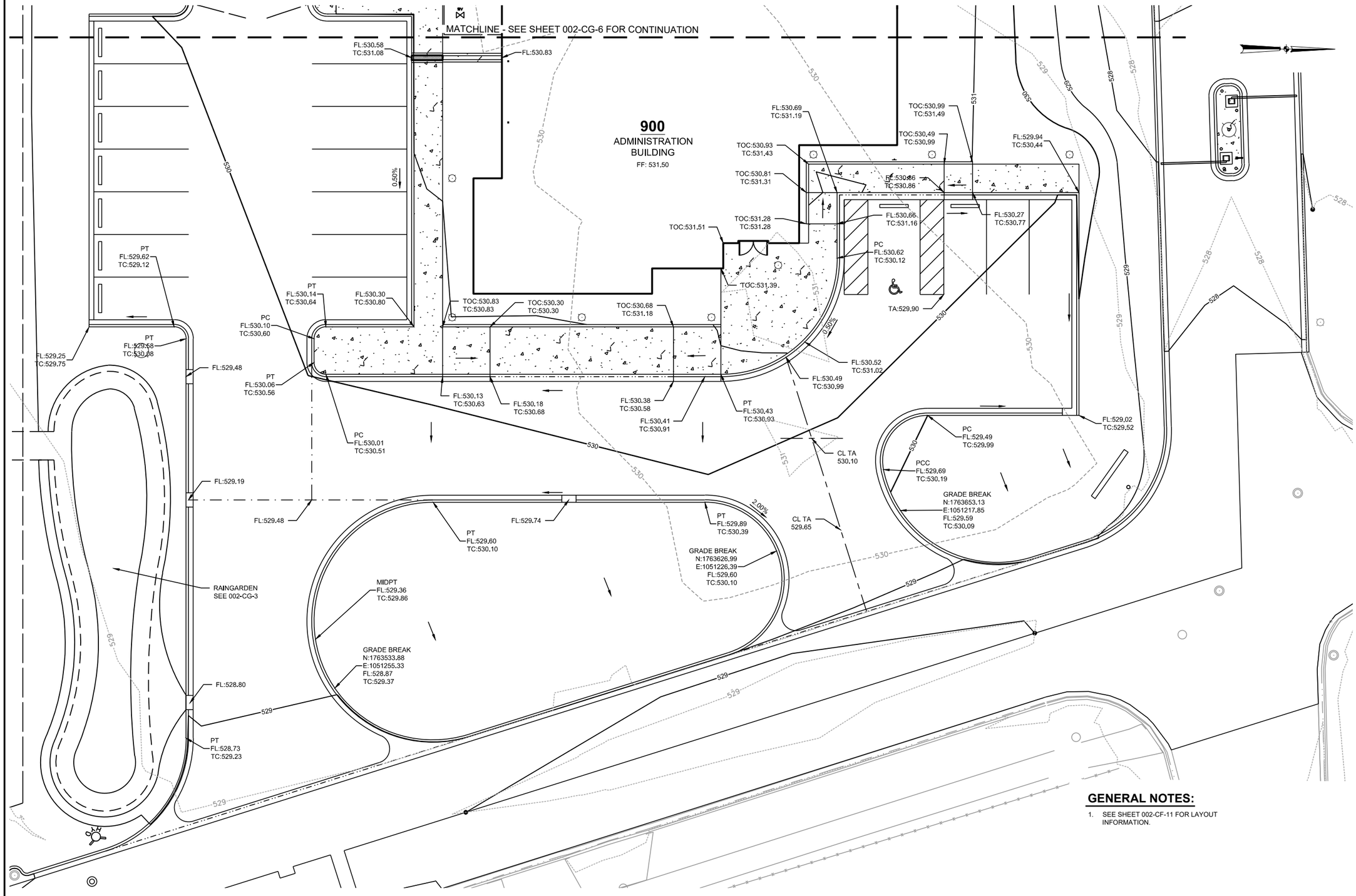
SITE DEVELOPMENT
STRUCTURE 900 GRADING PLAN 1

DONOHUE

Sheet No. 50B

Drawing No. 002-CG-6

1



GENERAL NOTES:

1. SEE SHEET 002-CF-11 FOR LAYOUT INFORMATION.

PLAN

0 10'

Revision Number	Revision Description	Drawn By	Checked By	Date
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CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

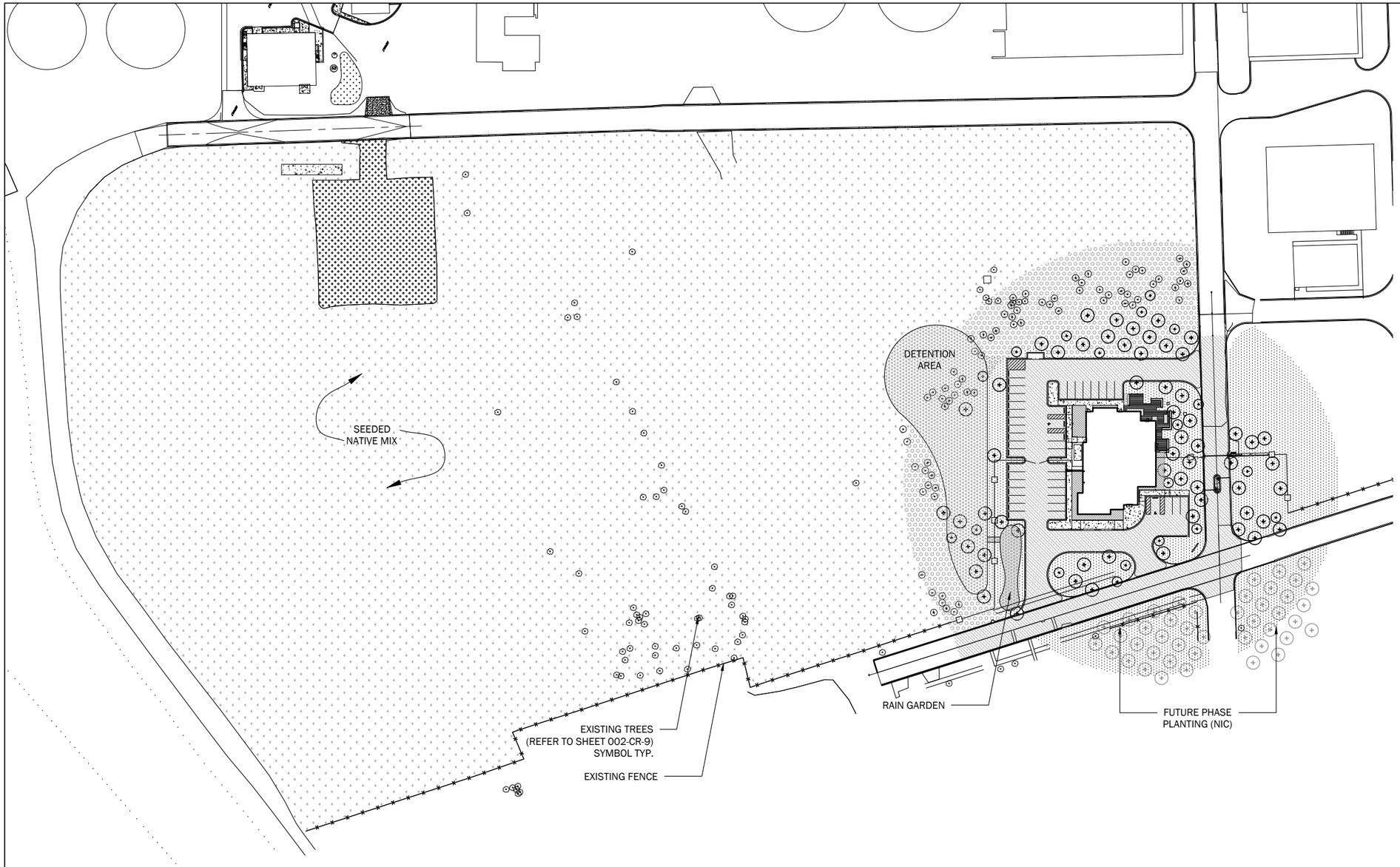
SITE DEVELOPMENT
STRUCTURE 900 GRADING PLAN 2

DONOHUE

Sheet No. 50C

Drawing No. 002-CG-7

1



1 OVERALL SITE PLAN
Scale: 1/64"=1'-0"

LEGEND

- SEEDED NATIVE MIX
- PARKING AREA SEEDED MIX
- RAIN GARDEN PERENNIAL PLUGS
- LAWN
- DETENTION POND SEEDED MIX
- FOUNDATION PLANT MIX
- PLANTER MIX
- PERMEABLE PAVERS
- BITUMINOUS CONCRETE PAVING
- EXISTING TREE
- PROPOSED TREE
- EXISITING FENCE
- PROPOSED FENCE

GENERAL NOTES:

1. DRAWINGS ARE NOT TO BE SCALED. CONTRACTOR WILL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS REQUIRED TO PERFORM THE WORK AND WILL REPORT ANY DISCREPANCIES WITH THE CONTRACT DOCUMENTS TO THE ENGINEER OR LANDSCAPE ARCHITECT BEFORE COMMENCING WORK.
2. THE LANDSCAPE ARCHITECTURAL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL OTHER CONTRACT DOCUMENTS INCLUDING THE PROJECT MANUALS, SPECIFICATIONS AND ENGINEERING DRAWINGS. IN CASES OF DIFFERENCE BETWEEN THE CONSULTANTS' DOCUMENTS WITH RESPECT TO THE QUANTITY, SIZES, OR SCOPE OF WORK, THE GREATER SHALL APPLY.
3. DIMENSIONS INDICATED ARE TAKEN BETWEEN THE FACES OF FINISHED SURFACES UNLESS OTHERWISE NOTED.

Revision Number	Revision Description	Drawn By	Checked By	Date
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CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

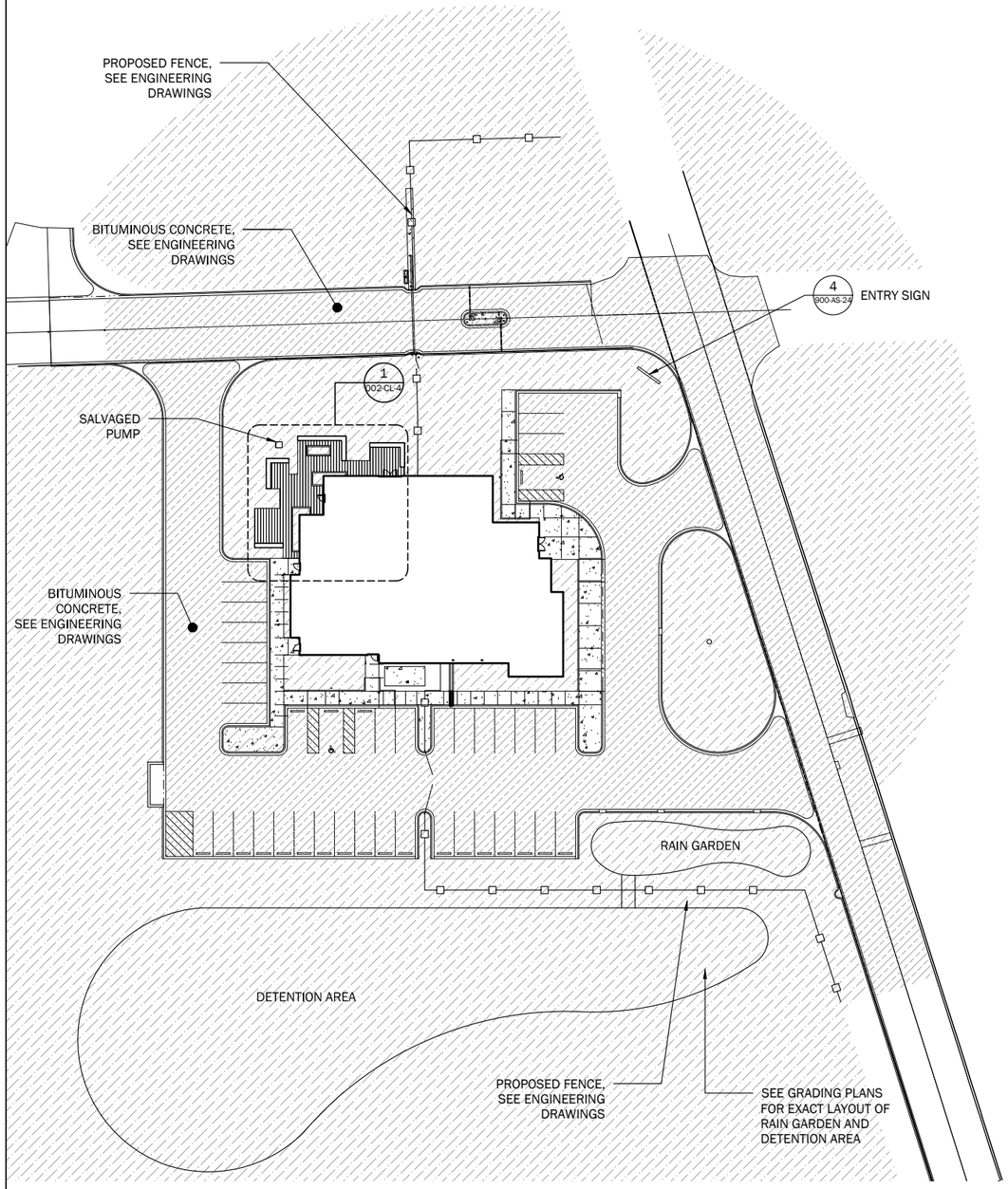
OVERALL SITE PLAN

LIVING HABITATS

DONOHUE

Sheet No. 54

Drawing No. 002-CL-2



1 MATERIALS PLAN

Scale: 1/32"=1'-0"

LEGEND

- BITUMINOUS CONCRETE PAVING
- PERMEABLE PAVERS
- PLANTED AREA
- PROPOSED FENCE

GENERAL NOTES:

1. DRAWINGS ARE NOT TO BE SCALED. CONTRACTOR WILL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS REQUIRED TO PERFORM THE WORK AND WILL REPORT ANY DISCREPANCIES WITH THE CONTRACT DOCUMENTS TO THE ENGINEER OR LANDSCAPE ARCHITECT BEFORE COMMENCING WORK.
2. THE LANDSCAPE ARCHITECTURAL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL OTHER CONTRACT DOCUMENTS INCLUDING THE PROJECT MANUALS, SPECIFICATIONS AND ENGINEERING DRAWINGS. IN CASES OF DIFFERENCE BETWEEN THE CONSULTANTS' DOCUMENTS WITH RESPECT TO THE QUANTITY, SIZES, OR SCOPE OF WORK, THE GREATER SHALL APPLY.
3. DIMENSIONS INDICATED ARE TAKEN BETWEEN THE FACES OF FINISHED SURFACES UNLESS OTHERWISE NOTED.

Revision Number	Revision Description	Drawn By	Checked By	Date
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CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

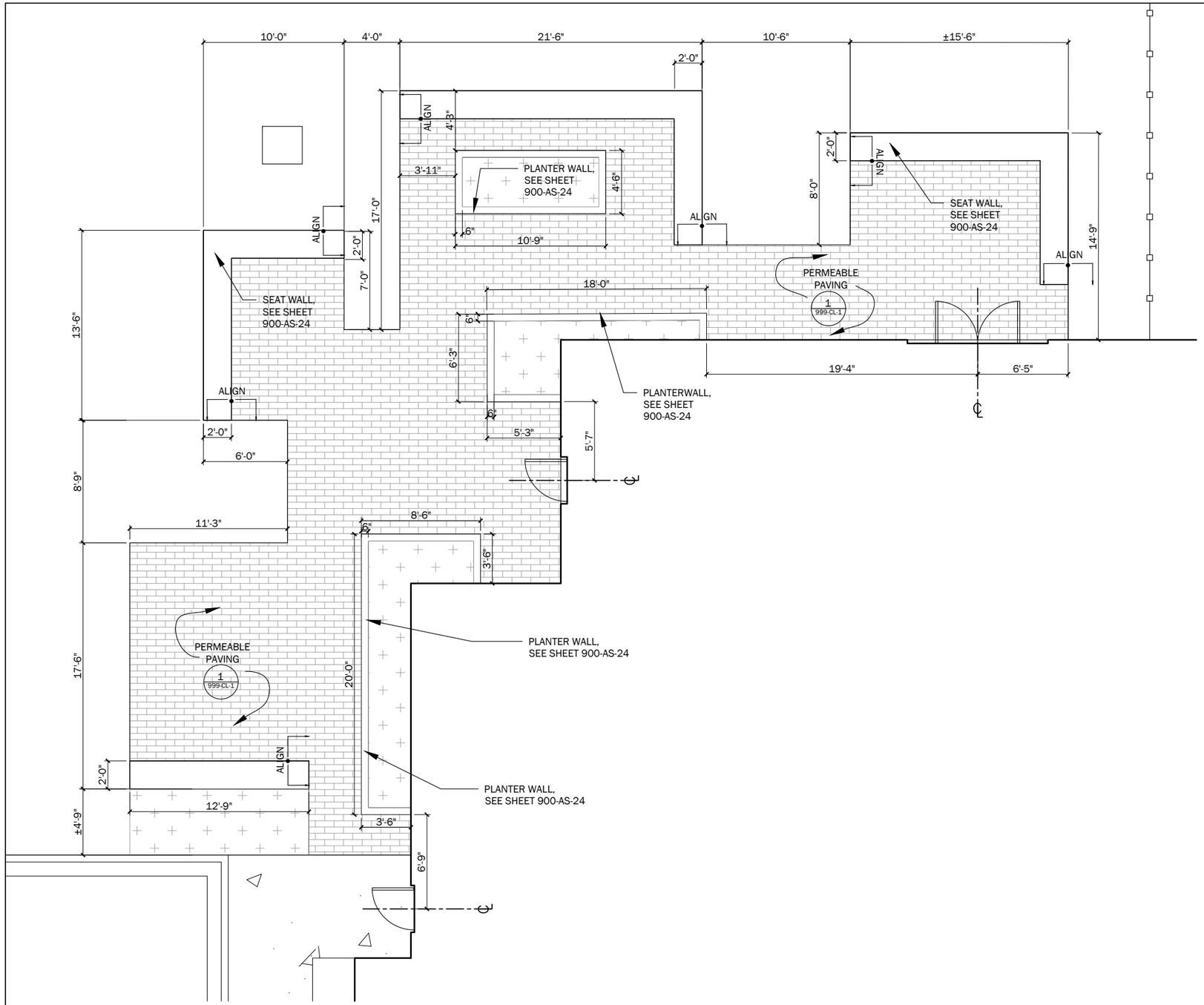
MATERIALS & LAYOUT PLAN

LIVING HABITATS

DONOHUE

Sheet No. 55

Drawing No. 002-CL-3



PLANTING NOTES:

1. USE DIMENSIONAL INFORMATION GIVEN. DO NOT SCALE DRAWINGS. DIRECT QUESTIONS ABOUT DIMENSIONS TO THE ENGINEER AND LANDSCAPE ARCHITECT IN WRITING.
2. ALL LINES AND DIMENSIONS ARE PARALLEL OR PERPENDICULAR TO THE LINES FROM WHICH THEY ARE MEASURED UNLESS NOTED OTHERWISE.
3. IN AREAS WHERE A NUMERIC DIMENSION AND A PAVEMENT COURSING WIDTH ARE BOTH SPECIFIED, COURSING DIMENSION TAKES PRECEDENCE UNLESS NOTED OTHERWISE.
4. LANDSCAPE ARCHITECT TO FIELD VERIFY STARTING POINT FOR PAVING PATTERN.

LEGEND

- PERMEABLE PAVING
- FOUNDATION PLANT MIX
- PLANTER MIX
- CENTER LINE

1 MATERIALS, LAYOUT AND PLANTING PLAN - PATIO
SCALE: 1/4"=1'-0"

Revision Number	Revision Description	Drawn By	Checked By	Date
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CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

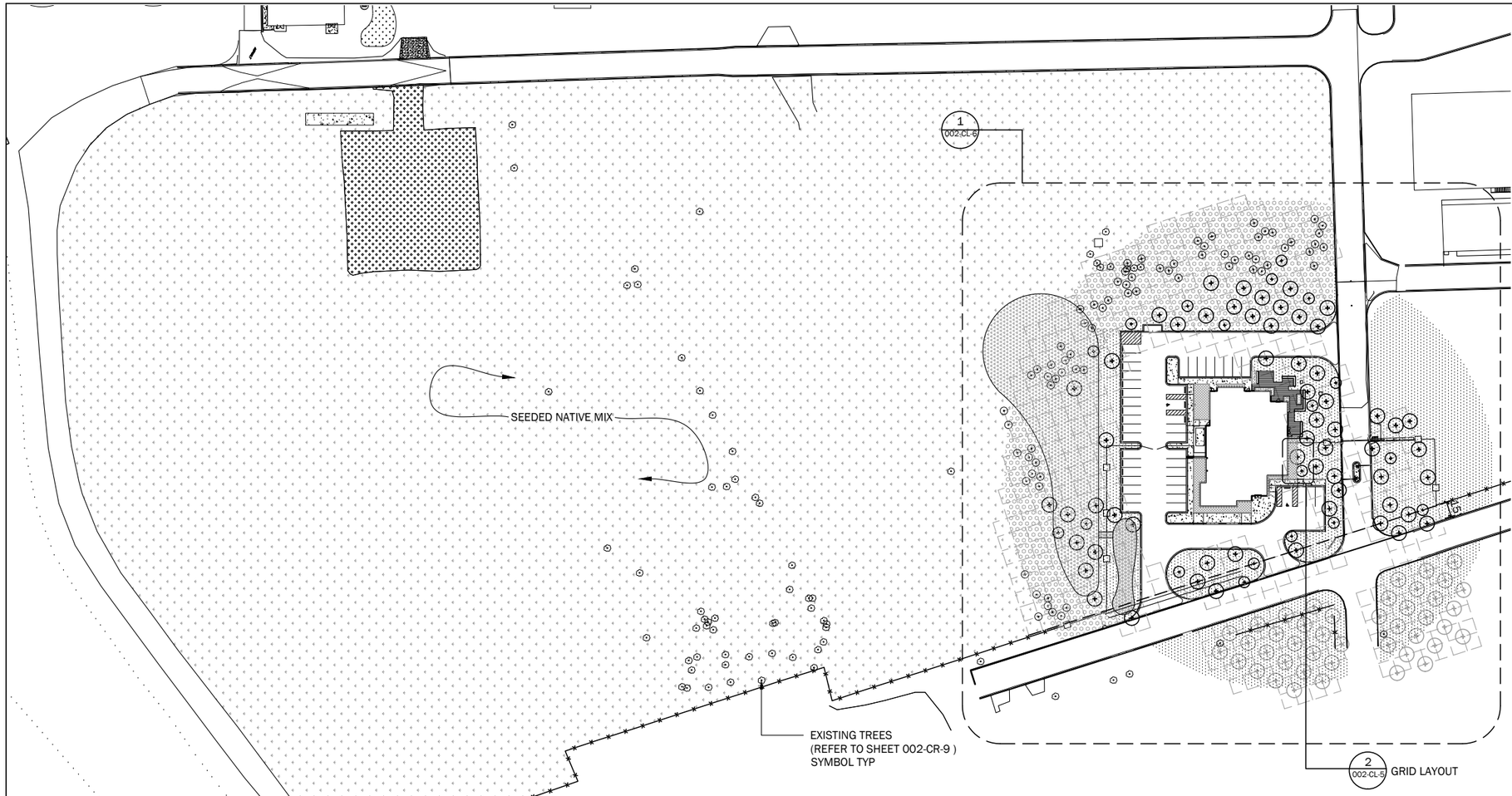
MATERIALS & LAYOUT PLAN - PATIO

DONOHUE

Sheet No. 56

Drawing No. 002-CL-4

LIVING HABITATS



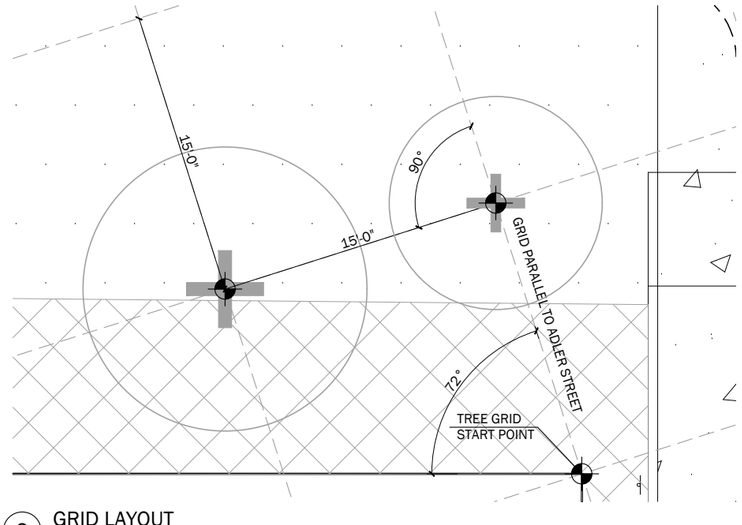
1 PLANTING PLAN - OVERALL
SCALE: 1/64"=1'-0"

PLANTING NOTES:

1. THE CONTRACTOR SHALL LOCATE AND VERIFY ALL EXISTING AND NEW UTILITY LINE LOCATIONS PRIOR TO PLANTING AND SHALL REPORT ANY CONFLICTS TO THE CONSTRUCTION MANAGER.
2. THE CONTRACTOR SHALL STAKE ALL TREE LOCATIONS IN THE FIELD. THE STAKED LOCATIONS SHALL BE REVIEWED AND APPROVED BY THE LANDSCAPE ARCHITECT. THE LANDSCAPE ARCHITECT SHALL BE ON SITE DURING PLACEMENT AND PLANTING, OF ALL UNDERSTORY, HERBACEOUS, AND PERENNIAL PLANT MATERIAL AND SHALL APPROVE THE LAYOUT OF MATERIAL PRIOR TO PLANTING. THE LANDSCAPE ARCHITECT MAY MAKE MINOR ADJUSTMENTS TO THE LAYOUT WITHOUT INCURRING ADDITIONAL COSTS TO THE PROJECT.
3. TREES: PROVIDE SPECIMEN BALLED AND BURLAP, OR AS SPECIFIED, TREES OF HEIGHT, SIZE, CALIPER, GENUS, SPECIES, CULTIVARS AND BRANCHING CONFIGURATION INDICATED. PROVIDE PLANT STOCK CERTIFIED TO HAVE BEEN GROWN WITHIN HARDINESS ZONES 4A THROUGH 6B AS ESTABLISHED BY THE USDA. ALL PLANTS SHALL BE TYPICAL OF THEIR SPECIES OR VARIETY AND SHALL HAVE A NORMAL HABIT OF GROWTH. THE ROOT SYSTEM OF EACH SHALL BE WELL PROVIDED WITH FIBROUS ROOTS. ALL PARTS OF PLANT SHALL BE MOIST AND SHOW ACTIVE GREEN CAMBIUM WHEN CUT. THEY SHALL BE FREE OF DISEASE, INSECT PESTS, EGGS OR LARVAE. ALL PLANTS TO BE MOVED BALLED AND BURLAP, MUST BE MOVED WITH THE ROOT SYSTEMS AS SOLID UNITS WITH BALLS OF EARTH FIRMLY WRAPPED WITH UNTREATED BURLAP, FIRMLY HELD IN PLACE BY A STOUT CORD OR WIRE, DRUM LACED, BOXED, OR IN CONTAINERS.
4. LANDSCAPE ARCHITECT TO VERIFY ALL PLANT LOCATIONS IN FIELD.
5. MULCH: PROVIDE PARTIALLY DECOMPOSED MILLED LEAVES WITH DARK BROWN COLOR AND FREE OF EXCESSIVE FINE PARTICLES, STRINGY MATERIAL, AND CHUNKS OF WOOD THICKER THAN 1/4".
6. ALL PLANTS SHALL BE TAGGED BY THE LANDSCAPE ARCHITECT IN THE NURSERY PRIOR TO DIGGING. AT LEAST 3 WEEKS PRIOR TO EXPECTED DIGGING DATE AT THE NURSERY, REQUEST, IN WRITING, THE LANDSCAPE ARCHITECT'S INSPECTION OF PLANT MATERIAL AT THE NURSERY. THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO REJECT PLANT MATERIAL AT THE NURSERY OR AT THE SITE.
7. THE TRUNK FLARE (AT THE BASE OF THE TREE) SHALL BE PROPERLY EXPOSED FOR ALL PLANTINGS.
8. KEEP ROOT BALLS INTACT PRIOR TO AND DURING PLANTING OPERATIONS. PLANTS WITH BROKEN OR DAMAGED ROOT BALLS SHALL BE REJECTED AND IMMEDIATELY REMOVED FROM THE SITE. KEEP ROOT BALLS DAMP AND PROTECTED FROM DAMAGE DUE TO SUN AND WIND. DO NOT SHAVE ROOT BALLS.
9. PLANTING BED PREPARATION FOR TREES AND SHRUBS: CREATE CONTINUOUS PLANTING BED, DO NOT PLACE PLANTS IN PITS. PLANT SOIL MIXTURE WILL BE USED TO BACKFILL THE PLANTING AREA. INSTALL PLANTS SIMULTANEOUSLY WITH INSTALLATION OF PLANTING SOIL MIXES AND BOULDERS.
10. TREE PLANTING: SEE TREE PLANTING DETAIL AND SPECIFICATION NOTES HEREIN FOR ADDITIONAL INFORMATION RELATED TO PLANTING PIT DIMENSIONS, PLANTING OPERATIONS, BACKFILLING, AND STAKING OF TREES.
11. CONTAINER STOCK PLANTING: PLANT CONTAINER GROWN STOCK THE SAME AS SPECIFIED FOR BALLED AND BURLAP STOCK BUT REMOVE CONTAINERS COMPLETELY.
12. OBSTRUCTIONS: IF OBSTRUCTIONS OR OTHER CONDITIONS DETRIMENTAL TO HEALTHY PLANT GROWTH ARE ENCOUNTERED, NOTIFY THE LANDSCAPE ARCHITECT IMMEDIATELY AND REQUEST ADDITIONAL INSTRUCTIONS.
13. WATERING AND DRAINAGE: FILL EXCAVATIONS WITH WATER AND ALLOW WATER TO PERCOLATE OUT BEFORE PLANTING. IF PLANTING PITS DO NOT PERCOLATE OR DRAIN PROPERLY, NOTIFY THE LANDSCAPE ARCHITECT AND REQUEST ADDITIONAL INSTRUCTIONS PRIOR TO PLANTING. DO NOT PLANT INTO POORLY DRAINING PLANTING PITS; POORLY DRAINING PLANTING PITS MAY HOLD WATER AND DROWN PLANTS.
14. FLOOD ALL PLANTS WITH WATER TWICE WITHIN THE FIRST 24 HOURS AFTER PLANTING.
15. ALL PLANT MATERIAL SHALL BE MULCHED AFTER PLANTING. BACKFILL TO ALLOW ROOM FOR MULCH AFTER SETTLING, AND PLACE MULCH IN DISH AFTER FIRST WATERING AND WITHIN ONE WEEK OF PLANTING. SEE PLANTING DETAILS FOR MULCH THICKNESS.
16. ALL PLANTS SHALL BE PLUMB VERTICALLY AFTER SETTLING OR AS DIRECTED BY THE LANDSCAPE ARCHITECT.
17. REFER TO SPECIFICATIONS AND DRAWINGS FOR PLANTING SOIL PROFILES (SOIL MIX HORIZONS AND COMPOSITION).

LEGEND

- SEEDED NATIVE MIX
- PARKING AREA SEEDED MIX
- RAIN GARDEN PERENNIAL PLUGS
- LAWN
- DETENTION POND SEEDED MIX
- FOUNDATION PLANT MIX
- PLANTER MIX
- PERMEABLE PAVERS
- BITUMINOUS CONCRETE PAVING
- EXISTING TREE
- PROPOSED TREE
- EXISITING FENCE
- PROPOSED FENCE



2 GRID LAYOUT
SCALE: 1/4"=1'-0"

Revision Number	Revision Description	Date
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CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

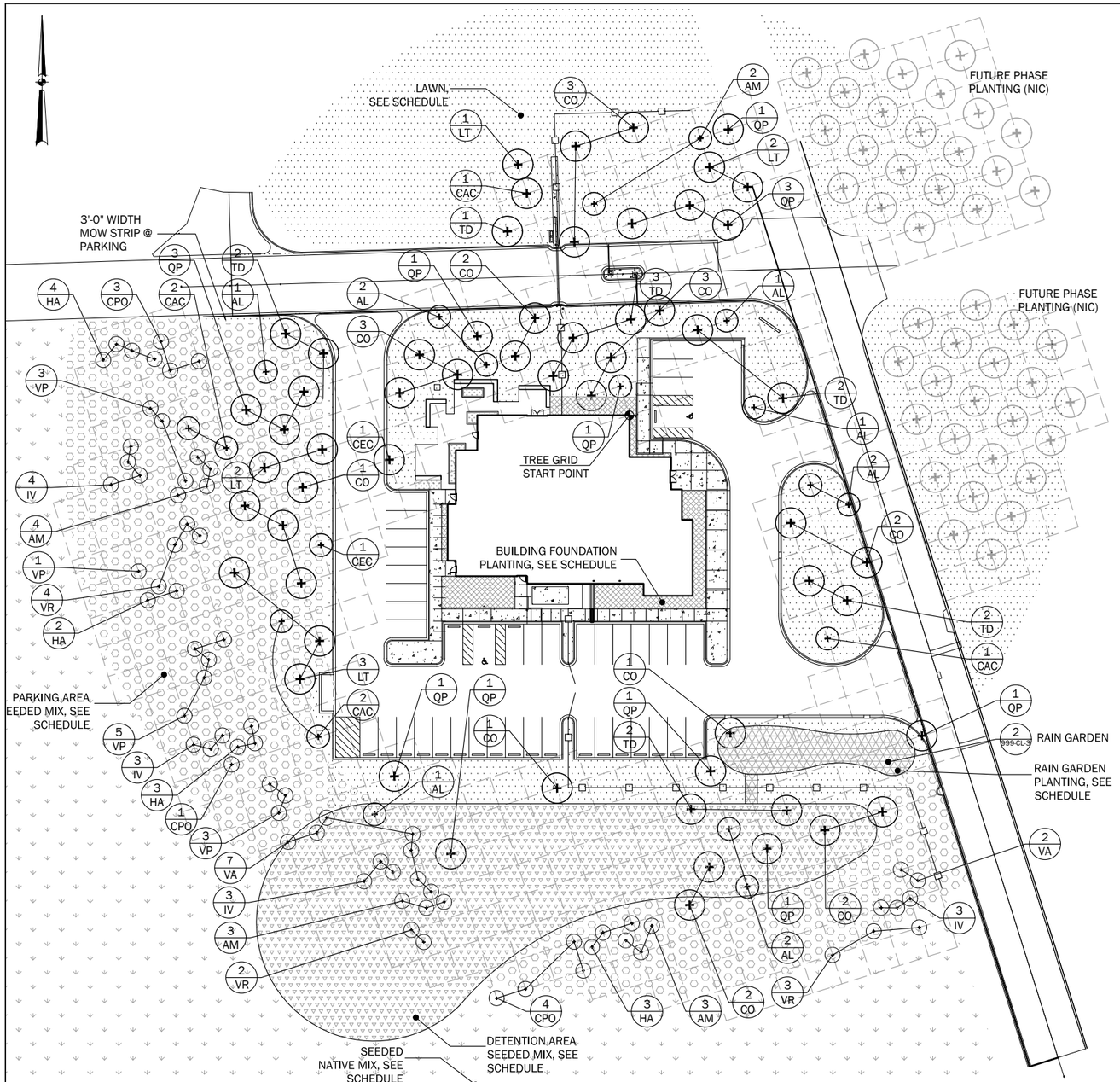
PLANTING PLAN - OVERALL

DONOHUE

LIVING HABITATS

Sheet No. 57

Drawing No. 002-CL-5



1 PLANTING PLAN - OVERALL
SCALE: 1/64"=1'-0"

LEGEND

- SEEDED NATIVE MIX
- PARKING AREA SEEDED MIX
- RAIN GARDEN PERENNIAL PLUGS
- LAWN
- DETENTION POND SEEDED MIX
- FOUNDATION PLANT MIX
- PLANTER MIX
- PROPOSED FENCE
- PROPOSED TREE

LAWN (SEEDED)			
SEEDING RATE	SCIENTIFIC NAME	COMMON NAME	NOTES
5LBS /1000 SF	POA PRATENSIS	KENTUCKY BLUE GRASS	
5LBS /1000 SF	FESTUCA RUBRA	CHEWINGS FESCUE	
5LBS /1000 SF	LOLIUM PERENNE	PERRENIAL RYE GRASS	
5LBS /1000 SF	FESTUCA ARUNDINACEA	TALL FESCUE BLEND	

TREES - CANOPY & UNDERSTORY						
ABBREVIATION	QTY	SCIENTIFIC NAME	COMMON NAME	SIZE	ROOT	NOTES
AL	10	AMELANCHIER LAEVIS	ALLEGHENY SHADBLOW SERVICEBERRY	8' HT.	B&B	MULTISTEM, 5 STEM MINIMUM
TD	12	TAXODIUM DISTICHUM	BALD CYPRUS	4" CAL.	B&B	HIGH BRANCHED
LT	8	LIRIODENDRON TULIPIFERA	TULIP POPLAR	2" CAL.	B&B	
CAC	6	CARPINUS CAROLINA	MUSCLEWOOD	8' HT.	B&B	MULTISTEM, 5 STEM MINIMUM
CO	20	CELTIS OCCIDENTALIS	HACKBERRY	4" CAL.	B&B	
CEC	2	CERCIS CANADENSIS	REDBUD	10' HT.	B&B	MULTISTEM, 5 STEM MINIMUM
QP	14	QUERCUS PALUSTRIS	PIN OAK	2" CAL.	B&B	

SHRUBS						
ABBREVIATION	QTY	SCIENTIFIC NAME	COMMON NAME	SIZE	ROOT	NOTES
AM	12	ARONIA MELANOCARPA	BLACK CHOKEBERRY	2'-3' HT	CONT.	
CPO	8	CEPHALANTHUS OCCIDENTALIS	BUTTONBUSH	3'-4' HT	CONT.	
HA	12	HYDRANGEA ARBORESCENS	SMOOTH HYDRANGEA	2'-3' HT	CONT.	
IV	13	ILEX VERTICILLATA	WINTERBERRY HOLLY	3'-4' HT	CONT.	
VA	9	VIBURNUM ACERIFOLIUM	MAPLE-LEAVED ARROW-WOOD	2'-3' HT	CONT.	
VP	12	VIBURNUM PRUNIFOLIUM	BLACK HAW	3'-4' HT	CONT.	
VR	9	VIBURNUM RAFINESQUIANUM	DOWNY ARROW-WOOD	2'-3' HT	CONT.	

FOUNDATION PLANTINGS					
QTY	SCIENTIFIC NAME	COMMON NAME	SIZE	ROOT	NOTES
16	VIBURNUM DENTATUM	ARROWOOD VIBURNUM	3'-4'HT	B&B	
12	FOTHERGILLA GARDENII	DWARF FOTHERGILLA	3 GAL	CONT	
24	ILEX VERTICILLATA	WINTERBERRY	3'-4'HT	B&B	
50	AESCULUS PAVIA	RED BUCKEYE	1 GAL	CONT	
50	HYDRANGEA ARBORESCENS	SMOOTH HYDRANGEA	3 GAL	CONT	
156	CEANOTHUS AMERICANUS	NEW JERSEY TEA	1 GAL	CONT	
565	PHLOX SUBULATA 'SNOWFLAKE'	CREEPING PHLOX	10 FLAT	FLAT	6" O.C.
545	EPIMEDIUM X RUBRUM	RED BARRENWORT	10 FLAT	FLAT	6" O.C.
650	ASARUM CANADENSE	WILD GINGER	3" POTS	POT	12" O.C.

PATIO PLANTERS					
QTY	SCIENTIFIC NAME	COMMON NAME	SIZE	ROOT	NOTES
175	COMPTONIA PEREGRINA	SWEETFERN	1 QT	CONT	
200	GALANTHUS NIVALIS	SNOWDROP		BULB	6" O.C.
250	NARCISSUS 'THALIA'	THALIA DAFFODIL		BULB	6" O.C.
300	NARCISSUS POETICS VAR RECURVUS	PHEASANTS EYE DAFFODIL		BULB	6" O.C.
100	PHLOX SUBULATA 'SNOWFLAKE'	CREEPING PHLOX	10 FLAT	FLAT	10" O.C.

GENERAL NOTES:

1. REFER 002-CL-05 FOR PLANTING NOTES.

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CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

PLANTING PLAN - PARTIAL

DONOHUE

LIVING HABITATS

Sheet No. 58

Drawing No. 002-CL-6

SEEDED NATIVE MIX

ABBREVIATION	SEEDING RATE	SCIENTIFIC NAME	COMMON NAME	WETLAND INDICATOR	VEGETATIVE PHYSIOLOGY	NOTES
AVESAT	50 LBS./ACRE	AVENA SATIVA	OATS	UPL	P-GRASS	
ELYCAN	50 LBS./ACRE	ELYMUS CANADENSIS	BLACK-EYED SUSAN	FAC-	P-GRASS	
AMOCAN	20 LBS./ACRE	AMORPHA CANESCENS	LEAD PLANT	UPL	P-FORB	
SCHSCO	40 LBS./ACRE	SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM GRASS	FACU	P-GRASS	
ASTCAN	20 LBS./ACRE	ASTRAGALUS CANADENSIS	CANADIAN MILK VETCH	FAC	P-FORB	
ASCTUB	20 LBS./ACRE	ASCLEPIAS TUBEROSA	BUTTERFLY WEED	UPL	P-FORB	
ASCVER	20 LBS./ACRE	ASCLEPIAS VERTICILLATA	WHORLED MILKWEED	UPL	P-FORB	
BLECIL	20 LBS./ACRE	BLEPHILIA CILIATA	OHIO HORSE MINT	UPL	P-FORB	
BOUCUR	20 LBS./ACRE	BOUTELOUA CURTIPENDULA	SIDE-OATS GRAMA	UPL	P-GRASS	
BRIEUP	20 LBS./ACRE	BRICKELLIA EUPATORIOIDES VAR. CORYMBULOSA	FALSE BONESET	UPL	P-FORB	
ARGATR	20 LBS./ACRE	ARNOGLOSSUM ATRIPLICIFOLIUM	PALE INDIAN PLANTAIN	UPL	P-FORB	
CXBICK	20 LBS./ACRE	CAREX BICKNELLII	COPPER-SHOULDERED OVAL SEDGE	UPL	P-SEDGE	
CXBREV	20 LBS./ACRE	CAREX BREVIOR	PLAINS OVAL SEDGE	FAC	P-SEDGE	
CXMEAD	20 LBS./ACRE	CAREX MEADII	MEAD'S STIFF SEDGE	FACW	P-SEDGE	
CXMOLE	20 LBS./ACRE	CAREX MOLESTA	FIELD OVAL SEDGE	FAC	P-SEDGE	
CORPAL	20 LBS./ACRE	COREOPSIS PALMATA	PRAIRIE COREOPSIS	UPL	P-FORB	
DADCAN	20 LBS./ACRE	DALEA CANDIDA	WHITE PRAIRIE CLOVER	UPL	P-FORB	
DALPUR	20 LBS./ACRE	DALEA PURPUREA	PURPLE PRAIRIE CLOVER	UPL	P-FORB	
DRYARG	20 LBS./ACRE	DRYMOCALLIS ARGUTA	PRAIRIE CINQUEFOIL	FACU	P-FORB	
ECHPAL	20 LBS./ACRE	ECHINACEA PALLIDA	PURPLE CONEFLOWER	UPL	P-FORB	
HELMOL	20 LBS./ACRE	HELIANTHUS MOLLIS	DOWNY SUNFLOWER	UPL	P-FORB	
HELOCC	20 LBS./ACRE	HELIANTHUS OCCIDENTALIS	WESTERN SUNFLOWER	FACU	P-FORB	
KOEMAC	20 LBS./ACRE	KOELERIA MACRANTHA	JUNE GRASS	UPL	P-GRASS	
LESCAP	20 LBS./ACRE	LESPEDEZA CAPITATA	ROUND-HEADED BUSH CLOVER	FACU	P-FORB	
LIAASP	20 LBS./ACRE	LIATRIS ASPERA	ROUGH BLAZING STAR	UPL	P-FORB	
MONFIS	20 LBS./ACRE	MONARDA FISTULOSA	WILD BERGAMONT	FACU	P-FORB	
MONPUN	20 LBS./ACRE	MONARDA PUNCTATA	HORSE MINT	UPL	P-FORB	
PENDIG	20 LBS./ACRE	PENSTEMON DIGITALIS	FOXGLOVE BEARD TONGUE	FAC	P-FORB	
PENHIR	20 LBS./ACRE	PENSTEMON HIRSUTUS	HAIRY BEARD TONGUE	UPL	P-FORB	
PENPAL	20 LBS./ACRE	PENSTEMON PALLIDUS	PALE BEARD TONGUE	UPL	P-FORB	
PHYVIR	20 LBS./ACRE	PHYSOSTEGIA VIRGINIANA ARENARIA	OBEDIENT PLANT	FACW	P-FORB	
RATPIN	20 LBS./ACRE	RATIBIDA PINNATA	YELLOW CONEFLOWER	UPL	P-FORB	
RUDHIR	20 LBS./ACRE	RUDBECKIA HIRTA	BLACK-EYED SUSAN	FACU	P-FORB	
RUEHUM	20 LBS./ACRE	RUELLIA HUMILIS	HAIRY RUELLIA	FACU	P-FORB	
SILINT	20 LBS./ACRE	SILPHIUM INTEGRIFOLIUM VAR. DEAMII	DEAM'S ROSIN WEED	UPL	P-FORB	
SOLRIG	20 LBS./ACRE	SOLIDAGO RIGIDA	STIFF GOLDENROD	FACU-	P-FORB	
SOLSPE	20 LBS./ACRE	SOLIDAGO SPECIOSA	SHOWY GOLDENROD	UPL	P-FORB	
SOLPTA	20 LBS./ACRE	SOLIDAGO PTARMICOIDES	STIFF ASTER	UPL	P-FORB	
SPOHET	20 LBS./ACRE	SPOROBOLUS HETEROLEPIS	PRAIRIE DROPSEED	FACU	P-GRASS	
SYMOBL	20 LBS./ACRE	SYMPHYOTRICHUM OBLONGIFOLIUM	AROMATIC ASTER	UPL	P-FORB	
SYMLAE	20 LBS./ACRE	SYMPHYOTRICHUM LAEVE	SMOOTH BLUE ASTER	UPL	P-FORB	
SYMOOL	20 LBS./ACRE	SYMPHYOTRICHUM OOLENTANGIENSE	SKY-BLUE ASTER	UPL	P-FORB	
SYMSER	20 LBS./ACRE	SYMPHYOTRICHUM SERICEUM	SILKY ASTER	UPL	P-FORB	
TRAOHI	20 LBS./ACRE	TRADESCANTIA OEHIENSIS	COMMON SPIDERWORT	FACU+	P-FORB	
ZIZAPT	20 LBS./ACRE	ZIZIA APTERA	HEART-LEAVED MEADOW PARSNIP	FACU	P-FORB	

RAIN GARDEN (PLUGS)

ABBREVIATION	QTY	SCIENTIFIC NAME	COMMON NAME	WETLAND INDICATOR	VEGETATIVE PHYSIOLOGY	NOTES
ACOCAL	65	ACORUS CALAMUS	SWEET FLAG	OBL	P-FORB	12" O.C.
ASCINC	365	ASCLEPIAS INCARNATA	SWAMP MILKWEED	OBL	P-FORB	12" O.C.
CXEMOR	65	CAREX EMORYI	RIVERBANK SEDGE	OBL	P-SEDGE	12" O.C.
CXLACU	65	CAREX LACUSTRIS	COMMON LAKE SEDGE	OBL	P-SEDGE	12" O.C.
CXPELL	65	CAREX PELLITA	BROAD-LEAVED WOOLLY SEDGE	OBL	P-SEDGE	12" O.C.
CXTRIB	65	CAREX TRIBULOIDES	AWL-FRUITED OVAL SEDGE	OBL	P-SEDGE	12" O.C.
CXVULP	65	CAREX VULPINOIDEA	BROWN FOX SEDGE	FACW	P-SEDGE	12" O.C.
EUPSER	365	EUPATORIUM SEROTINUM	LATE BONESET	FAC	P-FORB	12" O.C.
HEPAUT	65	HELENIUM AUTUMNALE	SNEEZEWEED	FACW	P-FORB	12" O.C.
HIBLAE	65	HIBISCUS LAEVIS	HALBERD-LEAVED ROSE MALLOW	OBL	P-FORB	12" O.C.
JUNEFF	65	JUNCUS EFFUSUS SSP. SOLUTUS	COMMON RUSH	OBL	P-FORB	12" O.C.
PENSED	65	PENTHORUM SEDOIDES	DITCH STONECROP	OBL	P-FORB	12" O.C.
RUDLAC	65	RUDBECKIA LACINIATA	WILD GOLDEN GLOW	FACW	P-FORB	12" O.C.
SCICYP	65	SCIRPUS CYPERINUS	WOOL GRASS	OBL	P-SEDGE	12" O.C.
SCHFLU	65	SCHOENOPLECTUS FLUVIATILIS	RIVER BULRUSH	OBL	P-SEDGE	12" O.C.
SENHEB	65	SENNA HEBECARPA	WILD SENNA	FACW	P-FORB	12" O.C.
SPAPEC	65	SPARTINA PECTINATA	PRAIRIE CORDGRASS	FACW	P-GRASS	12" O.C.
SYMNOV	365	SYMPHYOTRICHUM NOVAE-ANGLIAE	NEW ENGLAND ASTER	FACW	P-FORB	12" O.C.
VERHAS	365	VERBENA HASTATA	BLUE VERVAIN	FACW	P-FORB	12" O.C.

PARKING AREA SEEDED MIX

ABBREVIATION	SEEDING RATE	SCIENTIFIC NAME	COMMON NAME	WETLAND INDICATOR	VEGETATIVE PHYSIOLOGY	NOTES
ACTPAC	20 LBS./ACRE	ACTAEA PACHYPODA	WHITE BANEBERRY	FACU	P-FORB	
AQUCAN	20 LBS./ACRE	AQUILEGIA CANADENSIS	WILD COLUMBINE	FACU	P-FORB	
ASACAN	20 LBS./ACRE	ASARUM CANADENSE	WILD GINGER	FACU	P-FORB	
BAPAUS	20 LBS./ACRE	BAPTISIA AUSTRALIS	BLUE WILD INDIGO	FACU+	P-FORB	
BROPUB	20 LBS./ACRE	BROMUS PUBESCENS	WOODLAND BROME	FACU	P-GRASS	
CAMAME	20 LBS./ACRE	CAMPANULASTRUM AMERICANUM	TALL BELLFLOWER	FAC	P-FORB	
CXCEPH	20 LBS./ACRE	CAREX CEPHALOPHORA	SHORT-HEADED BRACTED SEDGE	FACU	P-FORB	
CXEBUR	20 LBS./ACRE	CAREX EBURNEA	IVORY SEDGE	FACU	P-SEDGE	
CXHIRI	20 LBS./ACRE	CAREX HIRTIFOLIA	HAIRY WOOD SEDGE	UPL	P-SEDGE	
CXJAME	20 LBS./ACRE	CAREX JAMESII	GRASS SEDGE	UPL	P-SEDGE	
CXROSE	20 LBS./ACRE	CAREX ROSEA	CURLY-STYLED WOOD SEDGE	UPL	P-SEDGE	
DODMEA	20 LBS./ACRE	DODECATHEON MEADIA	SHOOTING STAR	FACU	P-FORB	
EURMAC	20 LBS./ACRE	EURYBIA MACROPHYLLA	BIG-LEAVED ASTER	FACU	P-FORB	
EUPPUR	20 LBS./ACRE	EUTROCHIUM PURPUREUM	PURPLE JOE PYE WEED	FAC	P-FORB	
GERMAC	20 LBS./ACRE	GERANIUM MACULATUM	WILD GERANIUM	FACU	P-FORB	
HELDIV	20 LBS./ACRE	HELIANTHUS DIVARICATUS	WOODLAND SUNFLOWER	UPL	P-FORB	
MERVIR	20 LBS./ACRE	MERTENSIA VIRGINICA	VIRGINIA BLUEBELLS	FACW	P-FORB	
MONFIS	20 LBS./ACRE	MONARDA FISTULOSA	WILD BERGAMOT	FACU	P-FORB	
PHLDIV	20 LBS./ACRE	PHLOX DIVARICATA	WOODLAND PHLOX	FACU	P-FORB	
POLREP	20 LBS./ACRE	POLEMONIUM REPTANS	JACOB'S LADDER	FAC	P-FORB	
RUDHIR	40 LBS./ACRE	RUDBECKIA HIRTA	BLACK-EYED SUSAN	FACU	P-FORB	

LIVING HABITATS

Revision Number	01								
Revision Description	ADDENDUM NO. 2								
Drawn By	LH								
Checked By	LH								
Date	01/09/2019								

Designed By	LH
Drawn By	LH
Checked By	LH
Approved By	LH
Filename	002-CL-7.dwg
Project No.	13320
Project Date	DEC 2018

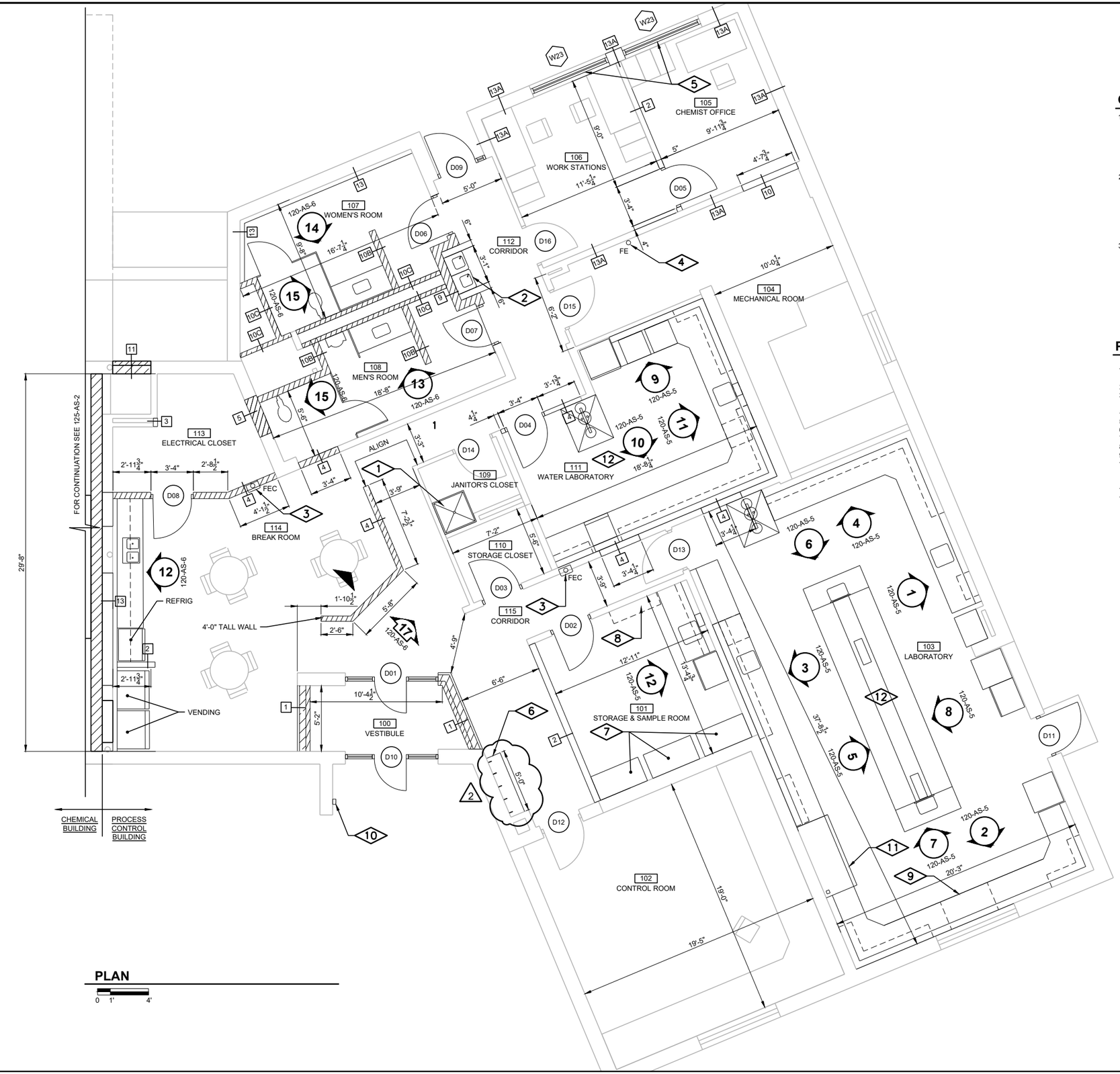
CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

PLANTING PLAN - SCHEDULE

DONOHUE

Sheet No. 59

Drawing No. 002-CL-7



PLAN

0 1' 4'

GENERAL NOTES:

1. REFER TO 001 SERIES OF DRAWINGS FOR THE SPACE ENVIRONMENT / HAZARDOUS RATING SCHEDULE REGARDING ENVIRONMENTAL CONDITIONS ANTICIPATED WITHIN EACH SPACE AND ALLOWABLE MATERIALS OF CONSTRUCTION TO BE USED WITHIN EACH SPACE.
2. HAZARDOUS RATINGS IDENTIFIED ON THIS DRAWING INDICATE SPACES IN WHICH A HAZARDOUS ENVIRONMENT MAY GENERALLY EXIST. CONTRACTOR SHALL REFER TO SPACE ENVIRONMENT / HAZARDOUS RATING SCHEDULE IN 001 SERIES OF DRAWINGS FOR ADDITIONAL INFORMATION EXPLAINING THE EXTENT AND ENVELOPE ASSOCIATED WITH THESE HAZARDS.
3. PATCH PLUMBING FLOOR REMOVALS WITH 6" CONCRETE SLAB. REINFORCE WITH #4@12" EW, TOP W/ MATCHING DOWELS. DRILL AND GROUT INTO EXIST SLAB, SEE S385

PLAN NOTES:

1. PROVIDE MOP SINK. PROVIDE MOP CLIP AND SHELF. MOUNT TOP AT 5'-0" AFF.
2. PROVIDE ADA WATER FOUNTAINS WITH BOTTLE FILL.
3. PROVIDE SEMI-RECESS FIRE EXTINGUISHER CABINET. SEE A919
4. PROVIDE FIRE EXTINGUISHER WALL HUNG ON BRACKET.
5. SEE WINDOW DETAIL 22 ON SHEET 120-AS-6.
6. PROVIDE SHELF AND COAT HOOK. SEE A911
7. STORAGE CABINETS BY OWNER.
8. SHELVING BY OWNER.
9. OPEN DESK. SEE SECTION 19 ON SHEET 120-AS-6
10. PROVIDE WALL MOUNTED KNOX BOX SERIES 3200. MOUNT TOP OF BOX AT 6'-0" AFF. COORDINATE KNOX BOX KEY WITH JOLIET FIRE DEPARTMENT.
11. PROVIDE FUME HOOD WITH CUP SINK.
12. PATCH ALL HOLES IN GLAZED CMU WALL LEFT BY REMOVED WALL ANCHORS, FASTENERS, ECT. PATCHED AREAS SHALL MATCH EXISTING LINES AND LEVELS OF ADJACENT CONSTRUCTION. PROVIDE SURFACE PREPARATION ON ALL GLAZED CMU WALLS BEFORE PAINTING.

Revision Number	Revision Description	Drawn By	Checked By	Date
02	ADDENDUM NO. 2	SRW	TJB	01/08/2019

Designed By	SRW/CLS
Drawn By	SRW/CLS
Checked By	TJB
Approved By	SRW/TJB
Filename	120SP1.DWG
Project No.	13320
Project Date	DEC 2018

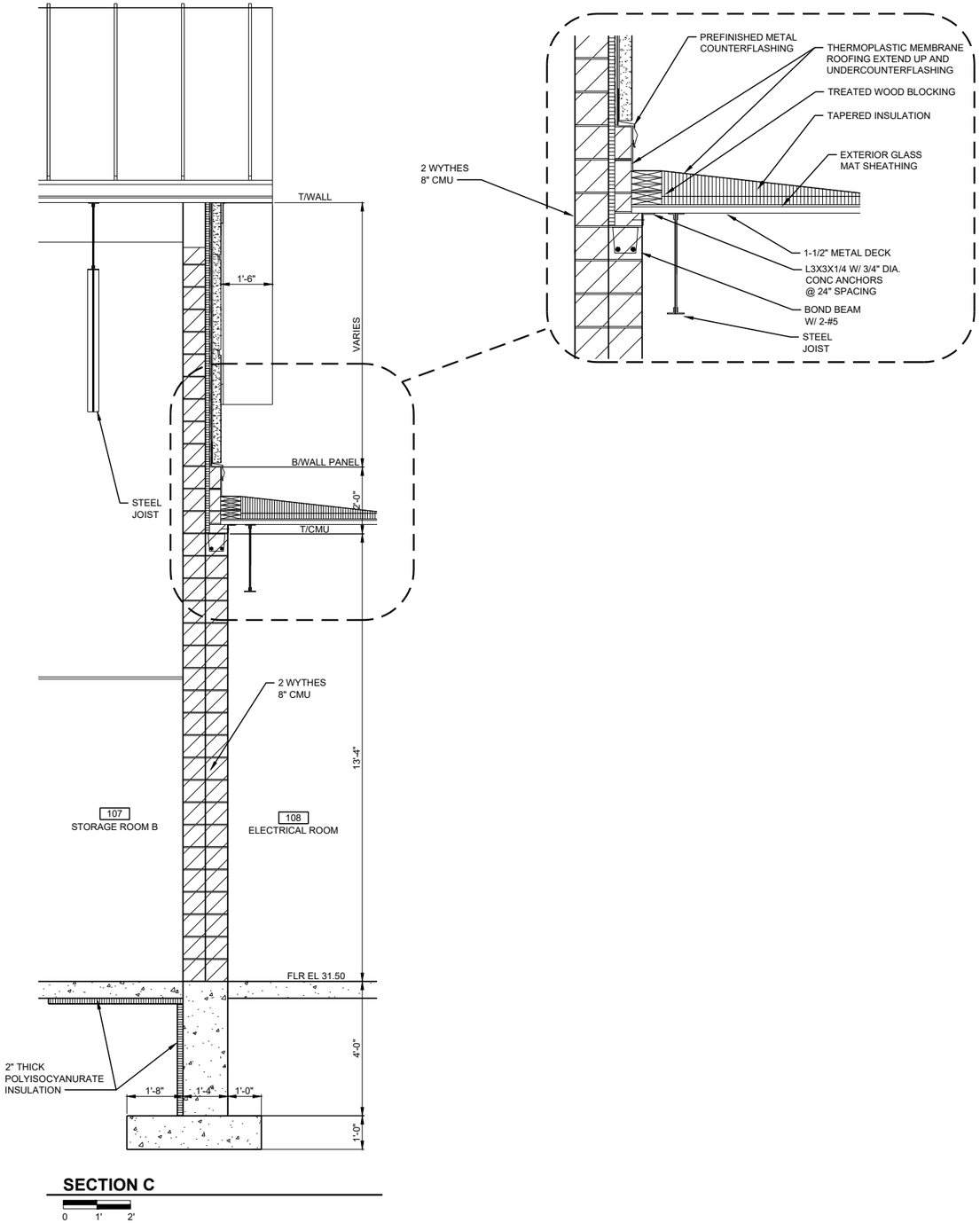
CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

PROCESS CONTROL BUILDING
PLAN

DONOHUE

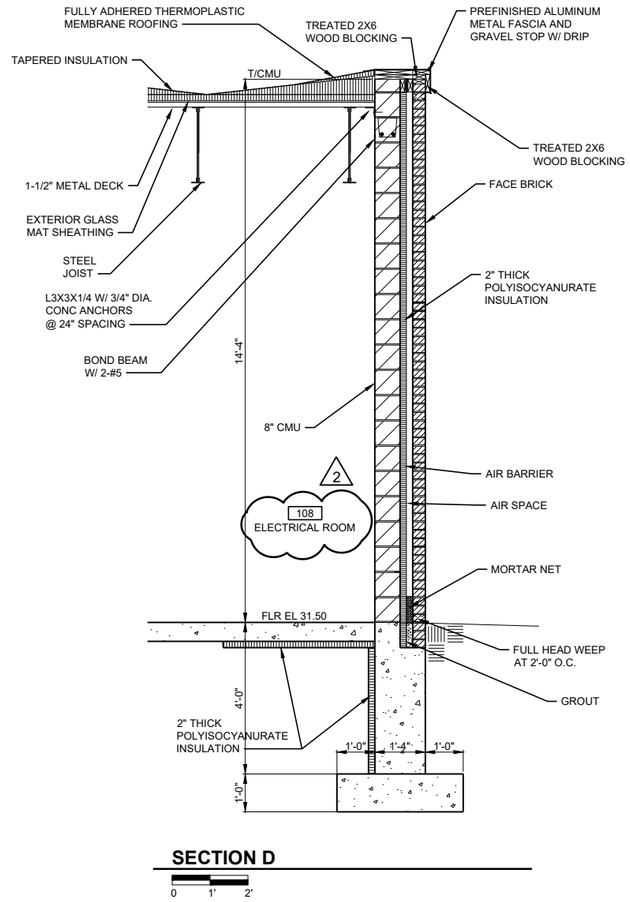
Sheet No. 105

Drawing No. 120-AS-2



SECTION C

0 1' 2'



SECTION D

0 1' 2'

Revision Number	Revision Description	Drawn By	Checked By	Date
02	ADDENDUM NO. 2	SRW	TJB	01/03/2019

Designed By	SRW/CLS
Drawn By	SRW/CLS
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Filename	900SP1.DWG
Project No.	13320
Project Date	DEC 2018

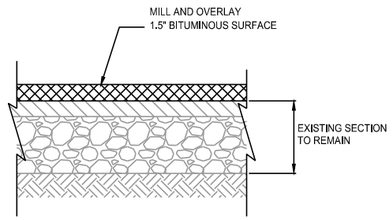
CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

ADMINISTRATION BUILDING
SECTIONS

DONOHUE

Sheet No. 280

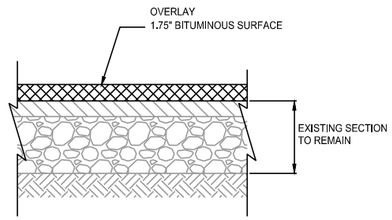
Drawing No. 900-AS-18



PAVEMENT RESTORATION

PAVEMENT RESTORATION SECTION C112

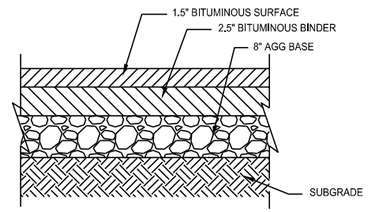
NTS



1.75" PAVEMENT OVERLAY

PAVEMENT OVERLAY SECTION C113

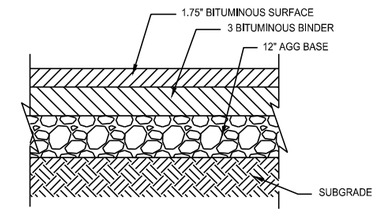
NTS



PLANT DRIVES & PARKING AREAS
PROPOSED PAVEMENT SECTION

PROPOSED PAVEMENT SECTION C114

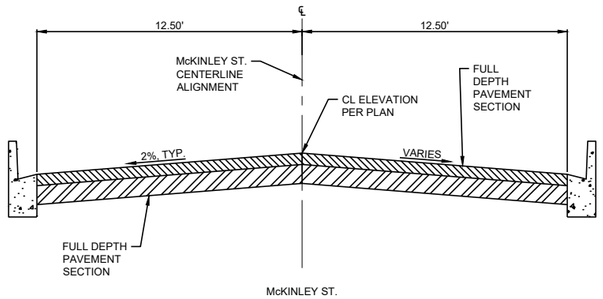
NTS



MCKINLEY ST, EDWARD ST, AND ADLER ST
PROPOSED PAVEMENT SECTION

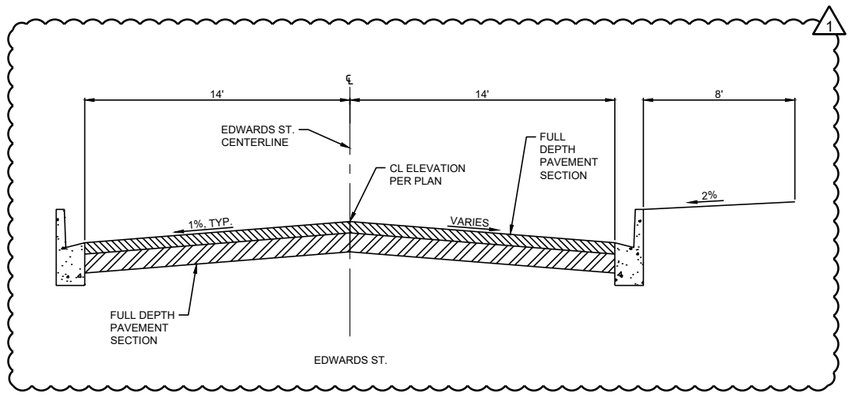
PROPOSED PAVEMENT SECTION C115

NTS



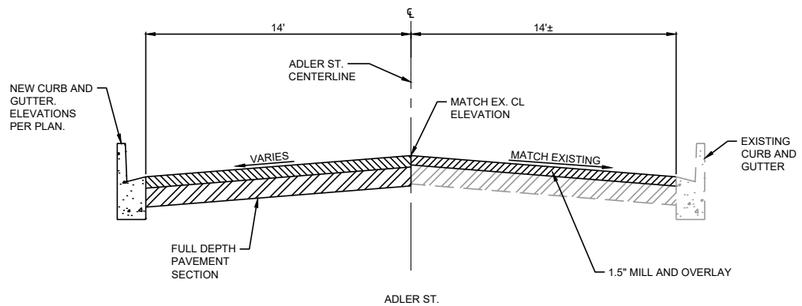
McKINLEY ST TYPICAL SECTION C120

NTS



EDWARDS ST TYPICAL SECTION C120

NTS



ADLER ST TYPICAL SECTION C122

NTS

Revision Number	Revision Description	Drawn By	Checked By	Date
01	ADDENDUM NO. 2	MLM	PMS	01/09/2019

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Filename	999CD.DWG
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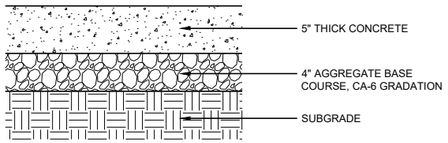
CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

CIVIL
STANDARD DETAILS

DONOHUE

Sheet No. 323

Drawing No. 999-C-3

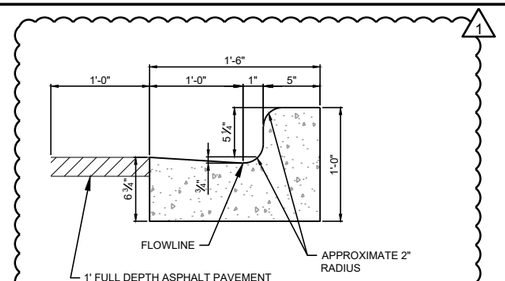


1

NOTES:
1. MINIMUM CROSS SLOPE = 0.5%. MAXIMUM CROSS SLOPE = 2%.
2. BROOM FINISH PERPENDICULAR TO DIRECTION OF TRAFFIC.
3. 10' WIDE SIDEWALK IN FRONT OF STRUCTURE 900 SHALL CONTAIN 6"X6" W20 OR D20 WWR, OR 2 #4 EQ. SP., CENTERED IN SLAB. JOINT SPACING SHALL BE 10'x10' MAXIMUM.

CONCRETE SIDEWALK C150

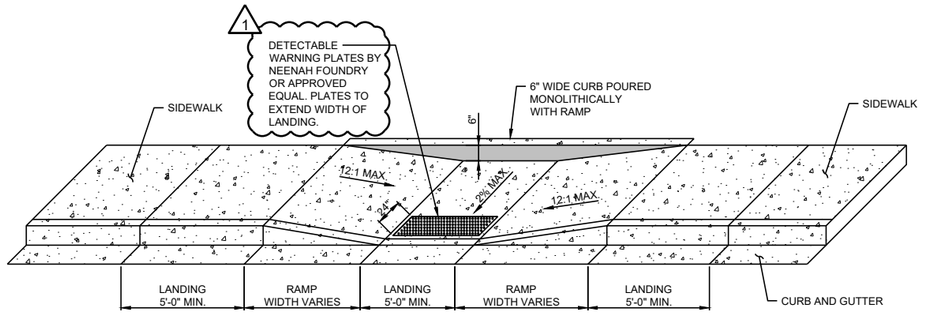
NTS



NOTE: CURB HEIGHT VARIES AT STRUCTURE 125. SEE 002-CF-7A.

STANDARD 18" CURB AND GUTTER C167

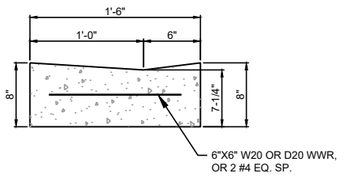
NTS



NOTES:
1. MINIMUM CROSS SLOPE = 0.5%. MAXIMUM CROSS SLOPE = 2%.
2. LANDING LONGITUDINAL SLOPE = 2% MAX.
3. BROOM FINISH PERPENDICULAR TO DIRECTION OF TRAFFIC.

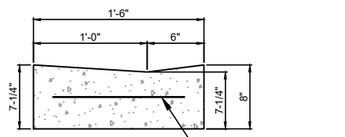
CURB RAMP C172

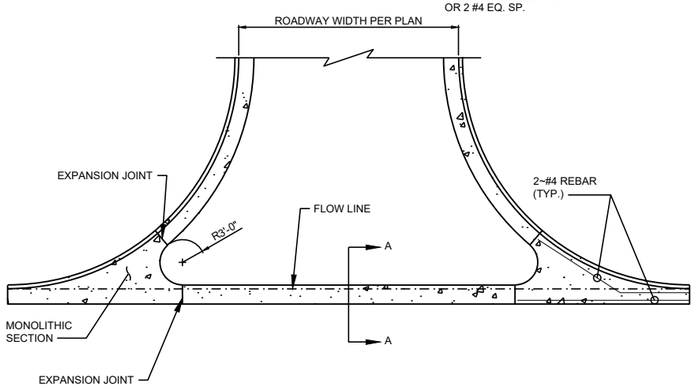
NTS



DEPRESSED 18" CURB AND GUTTER C175

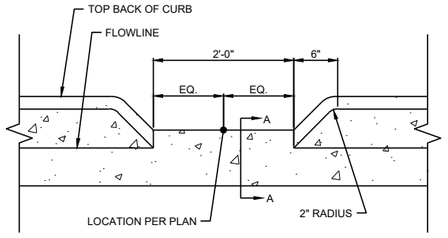
NTS

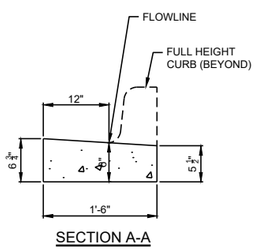




VALLEY GUTTER DETAIL C176

NTS





CURB CUT C177

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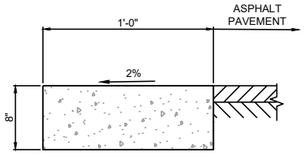
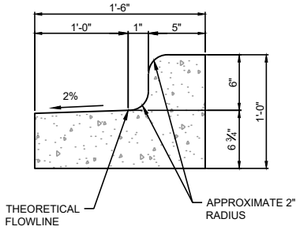


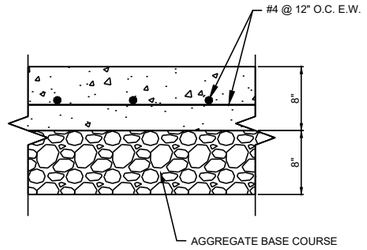
FLUSH HEADER CURB C178

NTS



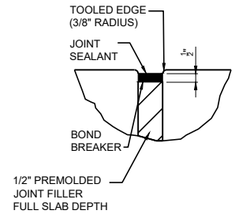
REVERSE PITCH 18" CURB AND GUTTER C179

NTS



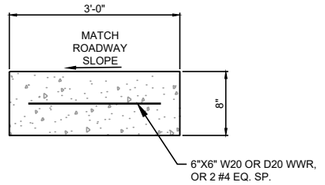
CONCRETE DRIVEWAY C180

NTS



EXPANSION JOINT DETAIL C181

NTS



3' WIDE CONCRETE PAVEMENT AT GATE C190

NTS

Revision Number	Revision Description	Drawn By	Checked By	Date
01	ADDENDUM NO. 2	MLM	PMS	01/09/2019

Designed By	MLM
Drawn By	MLM
Checked By	PMS
Approved By	PMS
Filename	999CD.DWG
Project No.	13320
Project Date	DEC 2018

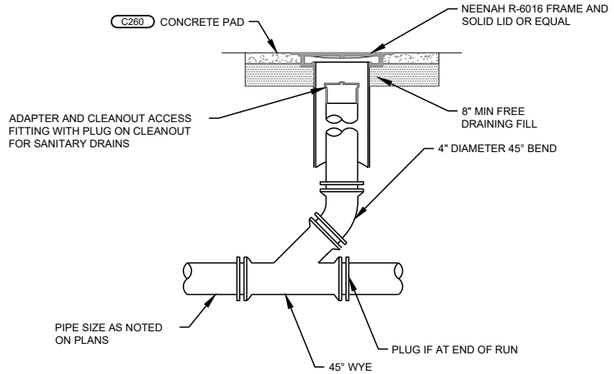
CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

CIVIL
STANDARD DETAILS

DONOHUE

Sheet No. 324

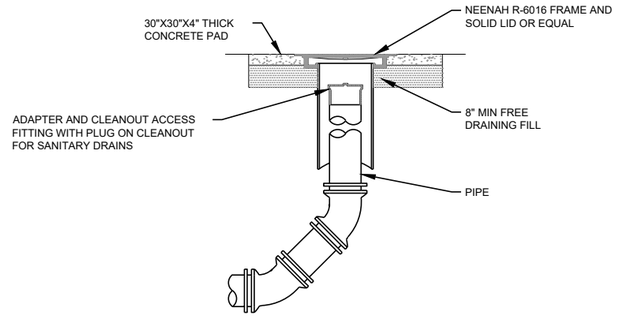
Drawing No. 999-C-4



NOTE: CONCRETE PAD NOT REQUIRED IF CLEANOUT LOCATED IN PAVED AREA.

SINGLE CLEANOUT C230

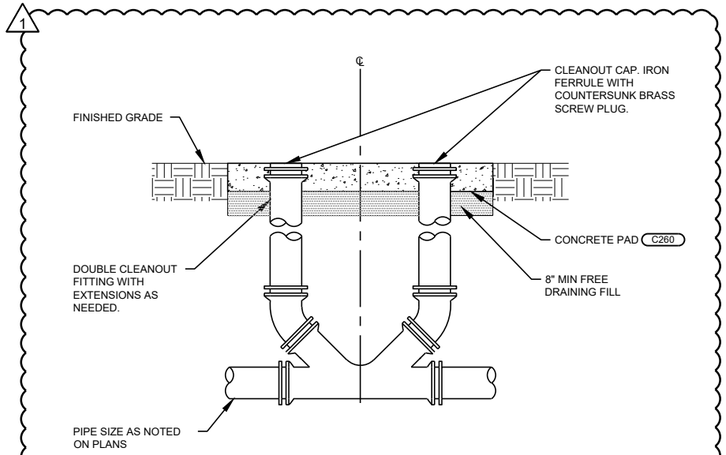
NTS



NOTE: CONCRETE PAD NOT REQUIRED IF CLEANOUT LOCATED IN PAVED AREA.

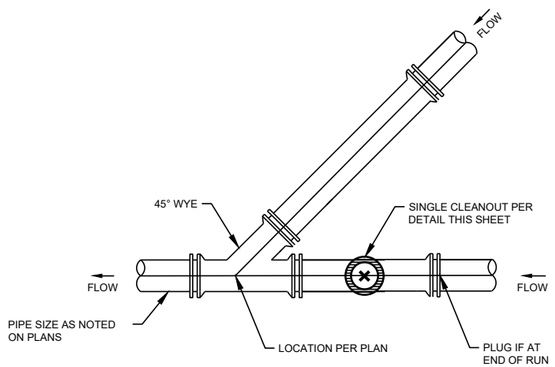
SANITARY CLEANOUT - END OF RUN C231

NTS



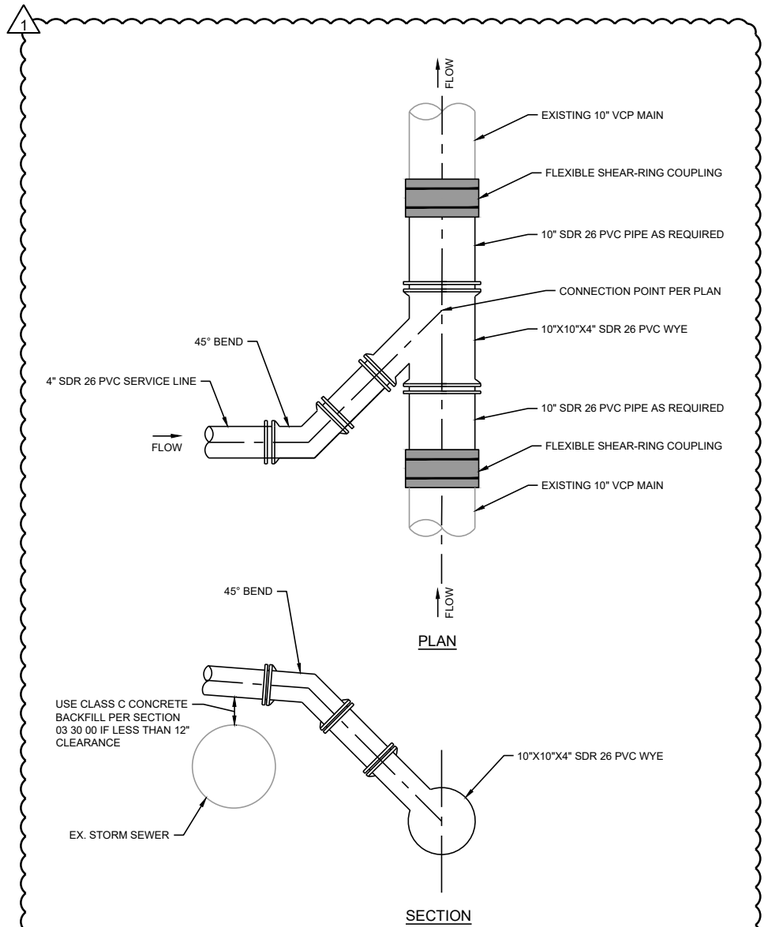
DOUBLE CLEANOUT DETAIL C232

NTS



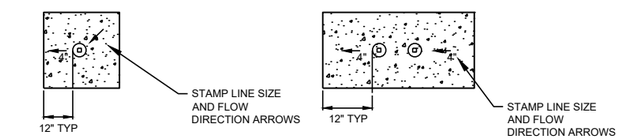
45° BEND C233

NTS



SANITARY SEWER SERVICE DETAIL C252

NTS



NOTE: CONCRETE PAD NOT REQUIRED IF CLEANOUT LOCATED IN PAVED AREA.

CONCRETE PAD C260

NTS

Revision Number	Revision Description	Drawn By	Checked By	Date
01	ADDENDUM NO. 2	MLM	PMS	01/09/2019

Designed By	MLM
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Approved By	PMS
Filename	999CD.DWG
Project No.	13320
Project Date	DEC 2018

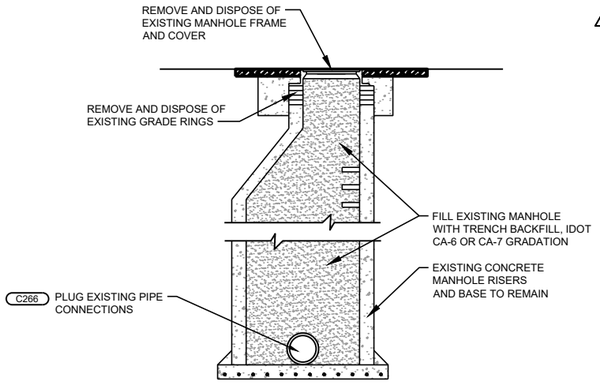
CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

CIVIL
STANDARD DETAILS

DONOHUE

Sheet No. 325

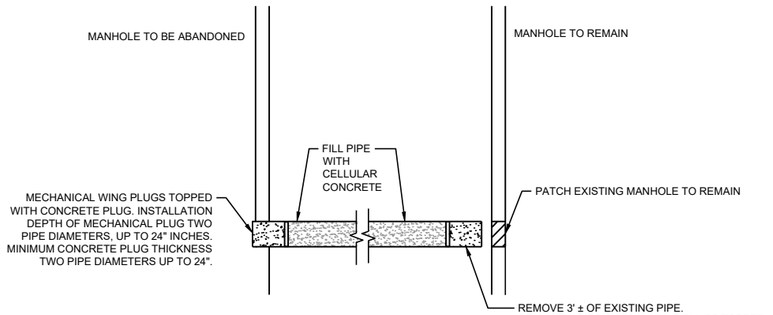
Drawing No. 999-C-5



MANHOLE ABANDONMENT DETAIL C265

NTS

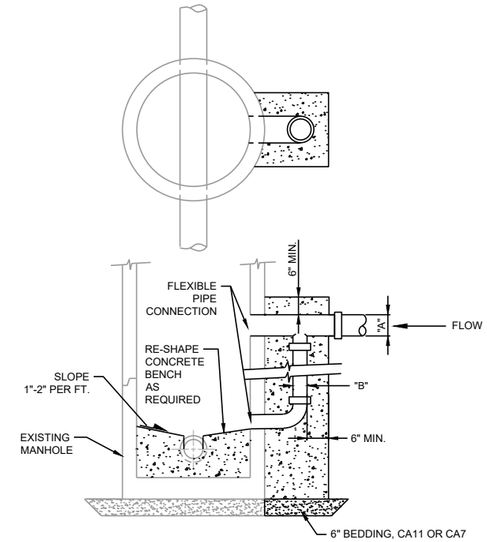
1



PIPE ABANDONMENT DETAIL C266

NTS

1



NOTES:

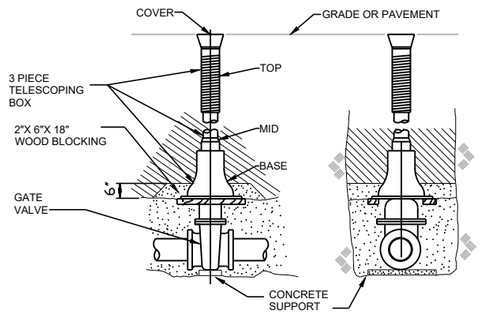
1. 8-INCH TO 12-INCH DIAMETER DROP: ENCASE ENTIRE DROP PIPE FROM BASE OF MANHOLE TO 6 INCHES ABOVE TOP OF INCOMING SEWER WITH 4000 PSI CONCRETE AT A MINIMUM THICKNESS OF 6 INCHES.
2. OVER 12-INCH DIAMETER DROP: ENCASE DROP ELBOW AT BASE OF MANHOLE TO 2 FEET ABOVE TOP OF ELBOW IN CONCRETE. SUPPORT DROP PIPE TO MANHOLE WALL WITH STAINLESS STEEL BRACKETS AND STRAPPING WHERE DROPS ARE OVER 10 FEET LONG.

"A"- DIAMETER OF INCOMING SEWER
"B"- DIAMETER OF DROP PIPE

WHEN: "A"=12-INCH OR LESS, "B"="A" BUT NOT SMALLER THAN 8-INCH.
WHEN: "A"=GREATER THAN 12-INCH, BUT LESS THAN OR EQUAL TO 18-INCH, "B"=12-INCH.
WHEN: "A"=GREATER THAN 18-INCH, "B"=2/3 "A" MINIMUM.

EXTERIOR DROP CONNECTION AT MANHOLE C292

NTS

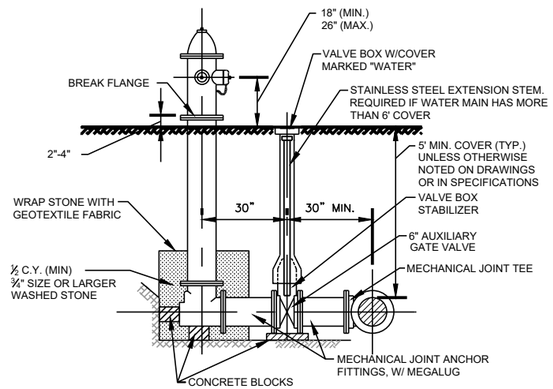


SIDE VIEW FRONT VIEW

PIPE DIA. INCHES	X=SETTING INCHES
2	6
3	7
4	8
6	12
8	13
12	21

GATE VALVE IN A BOX DETAIL C405

NTS

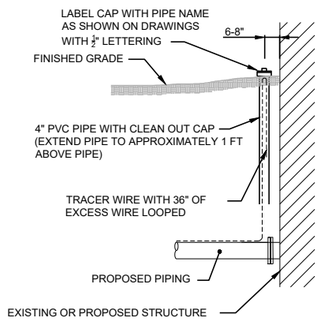


NOTES:

1. CLOW MEDALLION OR E.J. 5BR250 (RED FOR MUNICIPAL TREATED WATER, GREEN FOR RAW WATER, YELLOW FOR PRIVATE HYDRANTS)
2. HYDRANTS SHALL BE LOCATED A MINIMUM OF 2 FEET BEHIND THE BACK OF CURB IN LOCATIONS SHOWN ON THE DRAWINGS
3. USE SWIVEL TEE AS CALLED OUT ON PLANS. 30" MINIMUM SEPARATION DOES NOT APPLY WHEN USING SWIVEL TEES.

FIRE HYDRANT DETAIL C460

NTS



TRACER WIRE TERMINATION DETAIL C490

NTS

Revision Number	Revision Description	Drawn By	Checked By	Date
01	ADDENDUM NO. 2	MLM	PMS	01/09/2019

Designed By	MLM
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Approved By	PMS
Filename	999CD.DWG
Project No.	13320
Project Date	DEC 2018

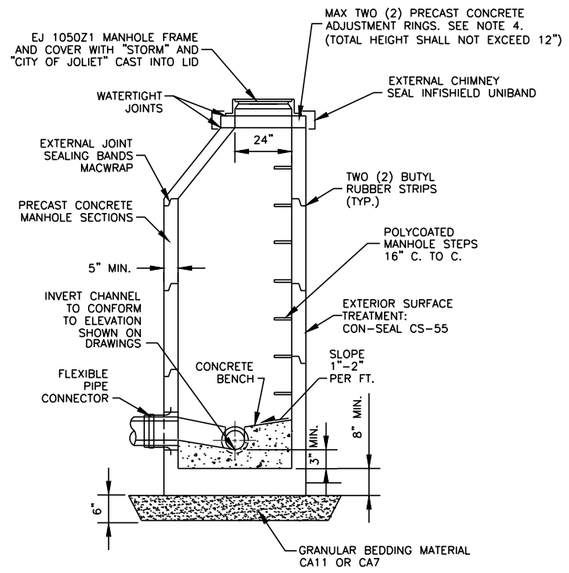
CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

CIVIL
STANDARD DETAILS

DONOHUE

Sheet No. 326

Drawing No. 999-C-6

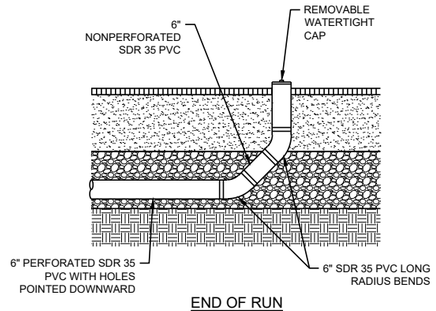


NOTE:

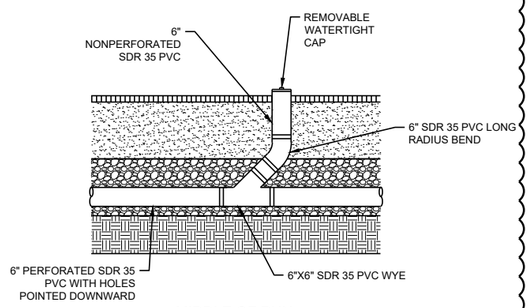
1. ECCENTRIC CONES REQUIRED, FLAT SLAB TOPS PERMITTED ONLY FOR MANHOLES TOO SHALLOW FOR CONES.
2. MANHOLE DIAMETER SHALL BE DETERMINED BY THE SEWER DEPTH, THE SEWER OUTSIDE DIAMETER, RELATIVE ANGLES OF SEWERS TO EACH OTHER, THE SIZE OF HOLES CORED/CAST FOR BOOTS, AND A MINIMUM OF 8" BETWEEN CORED/CAST HOLES. FOR SEWER SIZES 8" THROUGH 15", USE 4'-0" DIAMETER. FOR SEWER DEPTHS 15' AND GREATER, USE 5'-0" DIAMETER.
3. ALL LIFT HOLES ARE TO BE GROUTED FROM THE INSIDE AND OUTSIDE BEFORE BACKFILLING.
4. FOR MANHOLES INSTALLED IN PAVEMENT, PROVIDE ONE RUBBER COMPOSITE ADJUSTMENT RING. EJ INFRA-RISER OR APPROVED EQUAL.

STORM MANHOLE
(CITY OF JOLIET STD DETAIL) C380

NTS



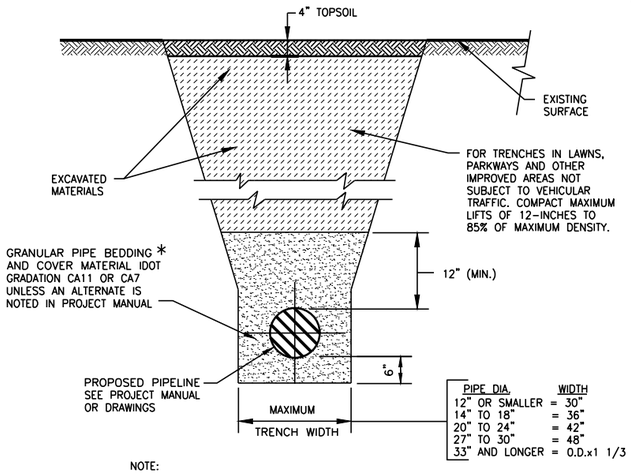
END OF RUN



MIDDLE OF RUN

UNDERDRAIN
CLEANOUT PORT DETAIL C390

NTS



NOTE:

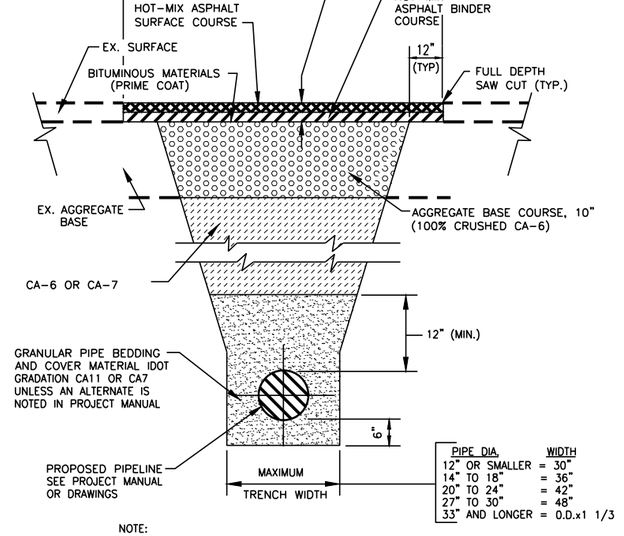
* FOR HDPE PIPE COMPLY WITH ASTM 2321, CLASS I OR II.
FOR RIGID PIPE COMPLY WITH ASTM C12, BEDDING CLASS B.

NOTE: PROVIDE 12" MINIMUM BETWEEN MULTIPLE ALUM CASING PIPES WITHIN THE SAME TRENCH TO ALLOW FOR COMPACTION. (1)

TYPICAL TRENCH DETAIL
NON PAVED AREAS
(CITY OF JOLIET STD DETAIL) C509

NTS

NOTE: PROJECT MANUAL REFERS TO "PROJECT SPECIFICATIONS", NOT TO IDOT STANDARD SPECIFICATIONS.



NOTE:

** FOR FLEXIBLE THERMOPLASTIC PIPE COMPLY WITH ASTM D2321, CLASS IA, IB, OR II., (IDOT GRADATION CA15)
FOR RIGID PIPE COMPLY WITH ASTM C12, BEDDING CLASS B.

NOTE: PROVIDE 12" MINIMUM BETWEEN MULTIPLE ALUM CASING PIPES WITHIN THE SAME TRENCH TO ALLOW FOR COMPACTION. (1)

TYPICAL TRENCH DETAIL
PAVEMENT AREA
(CITY OF JOLIET STD DETAIL) C510

NTS

Revision Number	Revision Description	Drawn By	Checked By	Date
01	ADDENDUM NO. 2	MLM	PMS	01/09/2019

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Filename	999CD.DWG
Project No.	13320
Project Date	DEC 2018

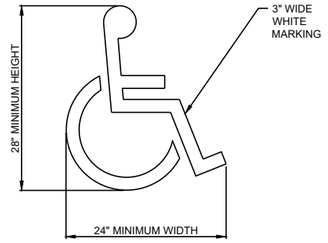
CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

CIVIL
STANDARD DETAILS

DONOHUE

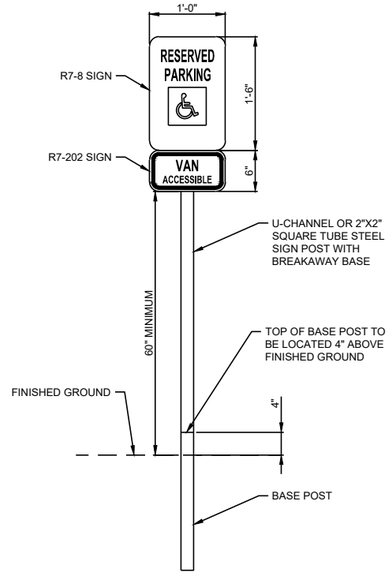
Sheet No. 327

Drawing No. 999-C-7



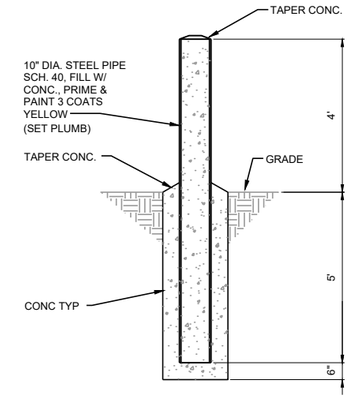
INTERNATIONAL SYMBOL OF ACCESSIBILITY PARKING SPACE MARKING **C760**

NTS



VAN ACCESSIBILE PARKING SIGN DETAIL **C761**

NTS

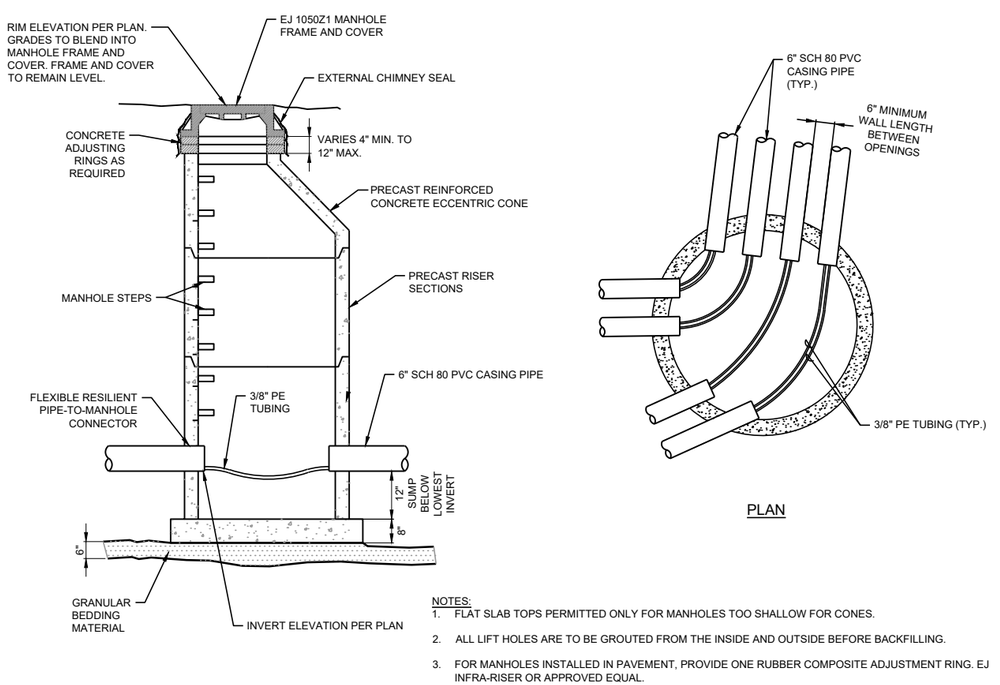


BOLLARD DETAIL **C801**

NTS

CONCRETE RUNDOWN AND SIDEWALK DRAIN **C901**

NTS



PLAN

NOTES:
1. FLAT SLAB TOPS PERMITTED ONLY FOR MANHOLES TOO SHALLOW FOR CONES.
2. ALL LIFT HOLES ARE TO BE GROUTED FROM THE INSIDE AND OUTSIDE BEFORE BACKFILLING.
3. FOR MANHOLES INSTALLED IN PAVEMENT, PROVIDE ONE RUBBER COMPOSITE ADJUSTMENT RING. EJ INFRA-RISER OR APPROVED EQUAL.

ALUM PIPING ACCESS MANHOLE DETAIL **C910**

NTS

Revision Number	Revision Description	Drawn By	Checked By	Date
01	ADDENDUM NO. 2	MLM	PMS	01/09/2019

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Checked By	PMS
Approved By	PMS
Filename	999CD.DWG
Project No.	13320
Project Date	DEC 2018

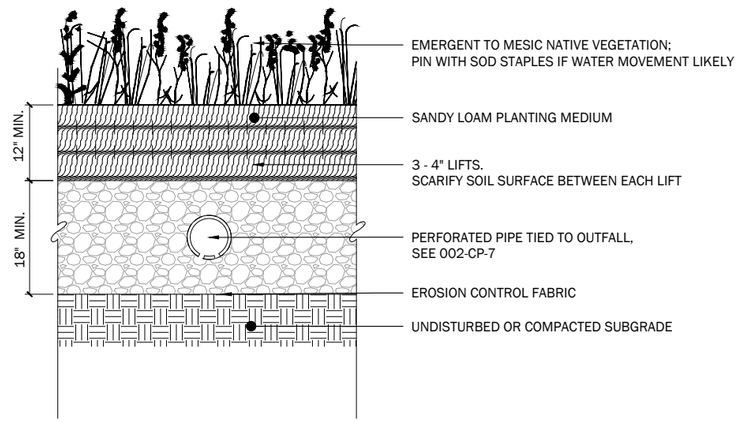
CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

CIVIL
STANDARD DETAILS

DONOHUE

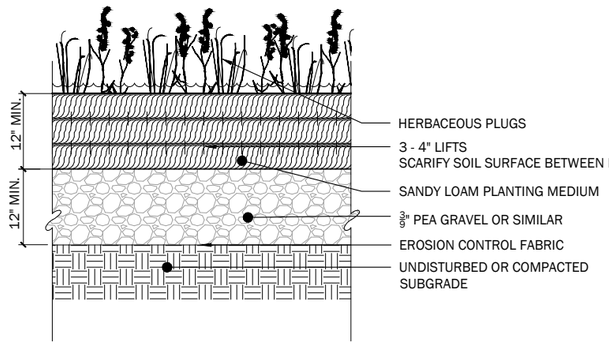
Sheet No. 330

Drawing No. 999-C-10



1 DETENTION AREA TYPICAL — SECTION

SCALE: 1/2"=1'-0"



2 RAINGARDEN — SECTION

SCALE: 1/2"=1'-0"

Revision Number	Revision Description	Drawn By	Checked By	Date
01	ADDENDUM NO. 2	LH	LH	01/09/2019

Designed By	LH
Drawn By	LH
Checked By	LH
Approved By	LH
Filename	999-CL-3.dwg
Project No.	13320
Project Date	DEC 2018

CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

LANDSCAPE DETAILS - PLANTING

DONOHUE

LIVING HABITATS

Sheet No. 333

Drawing No. 999-CL-3

ROOM FINISH SCHEDULE

A010

STRUC. NO	STRUCTURE/ROOM NAME	FLOOR MAT'L	FLOOR FINISH	WALLS MAT'L	WALLS FINISH	CEILING MAT'L	CEILING FINISH	REMARKS
120	100 VESTIBULE	CONC	RES	BR	PT	-	ACT-1	NOTE NO. 3,5,6
120	101 STORAGE & SAMPLE ROOM	CONC	RES	GB	PT	-	ACT-1	NOTE NO. 5,6
120	102 CONTROL ROOM	CONC	CPT	GB	PT	-	ACT-1	NOTE NO. 5,6
120	103 LABORATORY	CONC	RES	GCMU	PT	-	ACT-1	NOTE NO. 5,6
120	104 MECHANICAL ROOM	CONC	SC	CMU	PT	EXP	-	NOTE NO. 1,6
120	105 CHEMIST OFFICE	CONC	CPT	GB	PT	-	-	NOTE NO. 5,6
120	106 WORK STATIONS	CONC	CPT	GB	PT	-	ACT-1	NOTE NO. 5,6
120	107 WOMEN'S ROOM	CONC	CT	GCMU/CMU/CEMBD	CT	-	ACT-2	NOTE NO. 7
120	108 MEN'S ROOM	CONC	CT	GCMU/CMU	CT	-	ACT-2	NOTE NO. 7
120	109 JANITOR'S CLOSET	CONC	RES	CMU	CT	-	ACT-2	NOTE NO. 7
120	110 STORAGE CLOSET	CONC	RES	CMU	PT	-	ACT-1	NOTE NO. 5,6
120	111 WATER LABORATORY	CONC	RES	GCMU	PT	-	ACT-1	NOTE NO. 6
120	112 CORRIDOR	CONC	RES	BR	PT	-	ACT-1	NOTE NO. 3,5,6
120	113 ELECTRICAL CLOSET	CONC	SC	GB/CMU	PT	-	ACT-1	NOTE NO. 3,5,6
120	114 BREAK ROOM	CONC	RES	GB/BR/CMU	PT	-	ACT-1	NOTE NO. 3,5,6
125	100 CHEMICAL ROOM	CONC	COAT	GCMU/BR/CMU	COAT	CONC	COAT	NOTE NO. 2,4
125	102 ROOM 1	CONC	SC	CMU	COAT	CONC	COAT	NOTE NO. 2,4
125	103 ROOM 3	CONC	SC	CMU	COAT	CONC	COAT	NOTE NO. 2,4
125	104 ROOM 2	CONC	SC	CMU	COAT	CONC	COAT	NOTE NO. 2,4
600	101 PUMP ROOM	CONC	SC	CONC	COAT	CONC	COAT	NOTE NO. 2,4
600	102 STAIRWELL	CONC	SC	CONC/CMU	COAT	PCONC	COAT	NOTE NO. 2,4
600	103 CHEMICAL/ELECTRICAL ROOM	CONC	SC	CMU	COAT	PCONC	COAT	NOTE NO. 2,4
600	104 GBT ROOM	CONC	SC	CMU	COAT	PCONC	COAT	NOTE NO. 2,4
605	PUMP STATION	CONC	HCOAT	CONC	HCOAT	CONC	HCOAT	NOTE NO. 2,9
605	VALVE VAULT	CONC	HCOAT	CONC	HCOAT	CONC	HCOAT	NOTE NO. 2,9
900	101 VESTIBULE A	CONC	PLCONC	BR	-	EXP	PT	NOTE NO. 5,6
900	102 RECEPTION AREA	CONC	PLCONC	GB	PT	EXP	PT	NOTE NO. 5,6,10
900	103 CORRIDOR A	CONC	PLCONC	GB	PT	-	ACT-1	NOTE NO. 5,6
900	104 CONFERENCE/TRAINING ROOM	CONC	CPT	GB	PT	EXP	PT	NOTE NO. 5,6,10
900	105 BREAK ROOM	CONC	PLCONC	GB	PT	EXP	PT	NOTE NO. 5,6,10
900	106 STORAGE A	CONC	PLCONC	GB	PT	-	ACT-1	NOTE NO. 5,6
900	107 STORAGE B	CONC	PLCONC	GB	PT	-	ACT-1	NOTE NO. 5,6
900	108 ELECTRICAL ROOM	CONC	SC	CMU	PT	EXP	PT	NOTE NO. 6
900	109 WOMEN'S MUD ROOM	CONC	CT	GCMU	-	-	ACT-2	
900	110 LAUNDRY ROOM	CONC	PLCONC	GCMU	-	-	ACT-2	
900	111 WOMEN'S TOILET/LOCKER ROOM	CONC	CT	GCMU	-	-	ACT-2	
900	112 JANITOR	CONC	PLCONC	GCMU	-	-	ACT-2	NOTE NO. 1,8
900	113 MEN'S TOILET/LOCKER ROOM	CONC	CT	GCMU	-	-	ACT-2	NOTE NO. 1,8
900	114 MEN'S MUD ROOM	CONC	CT	GCMU	-	-	ACT-2	NOTE NO. 1,8
900	115 CORRIDOR B	CONC	PLCONC	GB	PT	-	ACT-1	NOTE NO. 5,6
900	116 OPEN OFFICE	CONC	PLCONC	GB	PT	-	ACT-1	NOTE NO. 5,6
900	117 IT OFFICE	CONC	CPT	GB	PT	-	ACT-1	NOTE NO. 5,6
900	118 OFFICE A	CONC	CPT	GB	PT	-	ACT-1	NOTE NO. 5,6
900	119 COPY ROOM	CONC	PLCONC	GB	PT	-	ACT-1	NOTE NO. 5,6
900	120 RECEPTIONIST	CONC	CPT	GB	PT	EXP	PT	NOTE NO. 5,6,10
900	121 CORRIDOR D	CONC	PLCONC	GB	PT	-	ACT-1	NOTE NO. 5,6
900	122 FAMILY TOILET	CONC	CT	CEMBD	CT	-	ACT-2	NOTE NO. 7
900	123 FILE ROOM	CONC	CPT	GB	PT	-	ACT-1	NOTE NO. 5,6

ABBREVIATIONS

ACT-1	ACOUSTICAL CEILING TILE
ACT-2	GYP. BD. CEILING TILE W/VINLY FACING
BR	BRICK
CEMBD	CEMENTITIOUS BACKER BOARD
CMU	CONCRETE MASONRY UNIT
GCMU	GLAZED CONCRETE MASONRY UNIT
CPT	CARPET TILE
COAT	COATING
CONC	CONCRETE
CT	CERAMIC TILE
EXP	EXPOSED STRUCTURE
GB	GYPSUM BOARD
HCOAT	HIGH PERFORMANCE EPOXY COATING
MDECK	METAL DECK
PCONC	PRECAST CONCRETE
PLCONC	POLISHED CONCRETE
PT	PAINT
RES	RESINOUS (EPOXY QUARTZ FLOORING)
SC	SEALED CONCRETE
STLTR	STEEL TRUSS

NOTES:

1. CONCRETE WALLS AND CEILINGS TO BE LEFT AS EXPOSED CONCRETE WHERE NOTED.
2. SEE SPECIFICATION SECTION 09 96 00 FOR COATING SCHEDULE.
3. COAT NEW CMU WALLS. CONCRETE WALLS LEFT EXPOSED. PAINT EXISTING BRICK WALL.
4. SEE SPECIFICATION SECTION 09 96 00 FOR COATING REQUIREMENTS ON EXISTING SURFACES.
5. PROVIDE 4" VINYL WALL BASE.
6. SEE SPECIFICATION SECTION 09 96 00 FOR PAINT SCHEDULE.
7. PROVIDE CERAMIC TILE BASE.
8. PROVIDE GLAZED CMU TO MATCH EXISTING SIZE AND BOND.
9. SEE SPECIFICATION SECTION 09 96 50 FOR HIGH PERFORMANCE EPOXY COATING SCHEDULE.
10. PAINT EXPOSED STRUCTURAL STEEL.

Revision Number	Revision Description	Drawn By	Checked By	Date
02	ADDENDUM NO. 2	SRW	TJB	01/03/2019

Designed By	SRW
Drawn By	SRW
Checked By	TJB
Approved By	TJB
Filename	999AD1.DWG
Project No.	13320
Project Date	DEC 2018

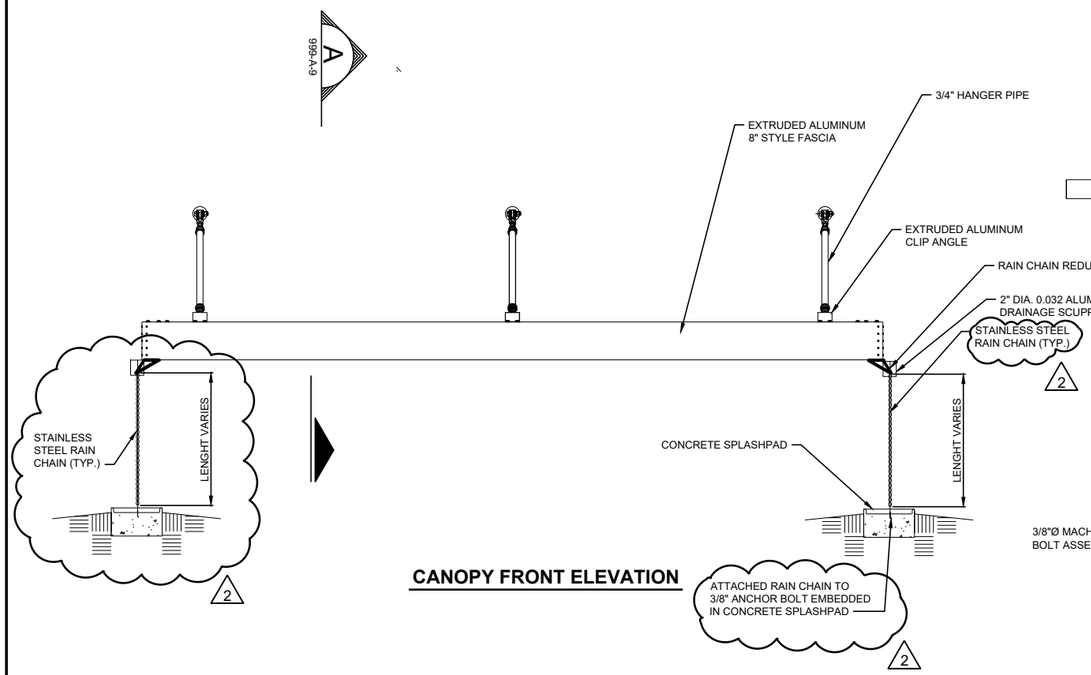
CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

ARCHITECTURAL
ROOM FINISH SCHEDULE

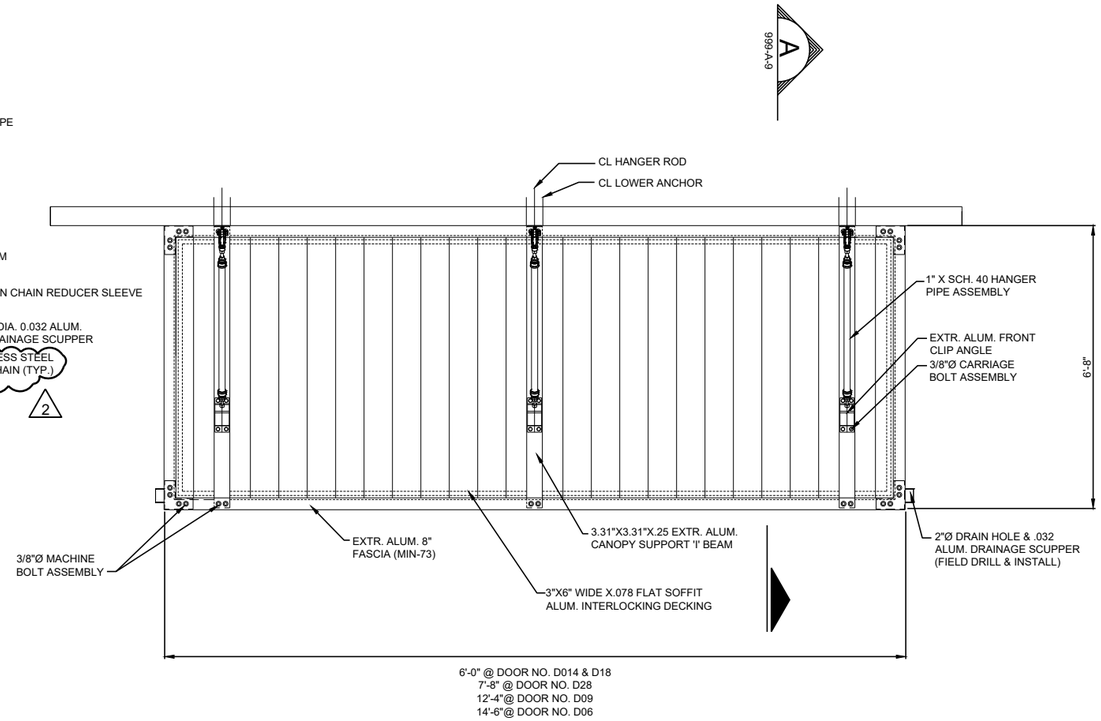
DONOHUE

Sheet No. 334

Drawing No. 999-A-1



CANOPY FRONT ELEVATION



CANOPY PLAN

GENERAL NOTES:

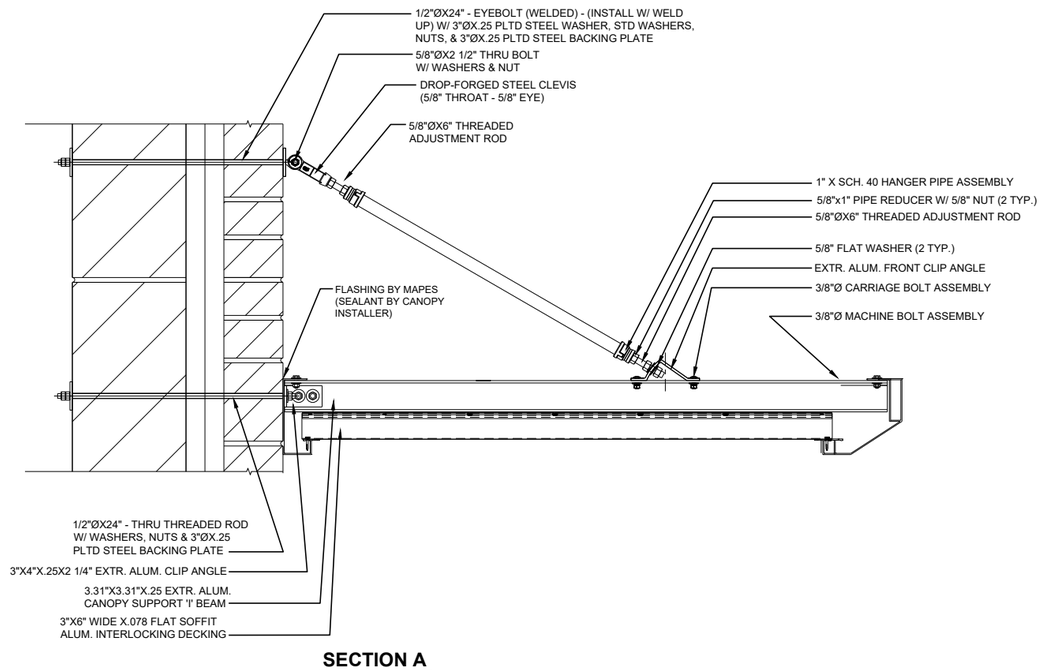
CANOPY SHALL BE MAPES SUPER LUMIDECK WITH FLAT SOFFIT BY MAPES ARCHITECTURAL CANOPIES OR EQUAL.

FINISH SHALL BE CLEAR ANODIZED.

FIELD VERIFY ALL DIMENSIONS.

ALL FASTENER HOLES NOT OTHERWISE NOTED SHALL BE FIELD DRILLED.

ALL FASTENERS NOT OTHERWISE NOTED SHALL BE CADMIUM PLATED FERROUS OR ALUMINUM.



SECTION A

CANOPY DETAIL A784

NTS

Revision Number	Revision Description	Drawn By	Checked By	Date
02	ADDENDUM NO. 2	SRW	TJB	01/03/2019

Designed By	SRW
Drawn By	SRW
Checked By	TJB
Approved By	TJB
Filename	999AD1.DWG
Project No.	13320
Project Date	DEC 2018

CITY OF JOLIET
EASTSIDE WASTEWATER TREATMENT PLANT
PHOSPHORUS REMOVAL PROJECT
JOLIET, ILLINOIS

ARCHITECTURAL
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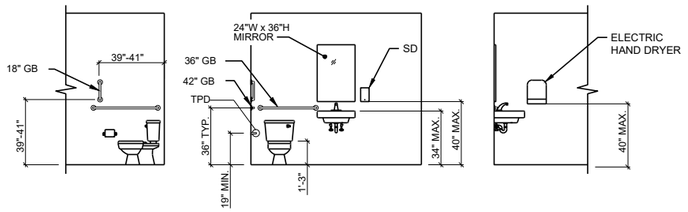
DONOHUE

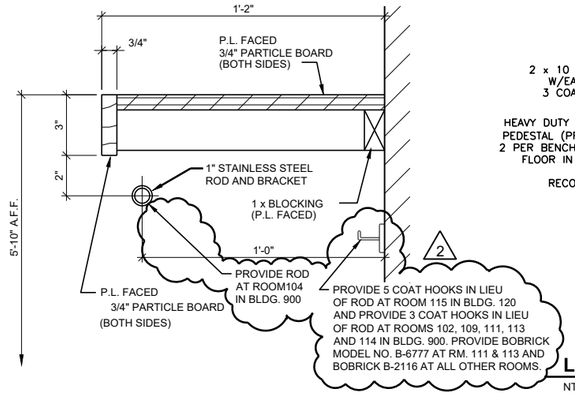
Sheet No. 340

Drawing No. 999-A-7



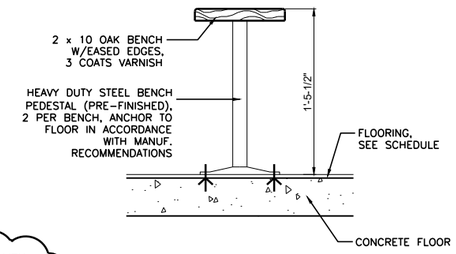
BATHROOM LAYOUT A910

NTS



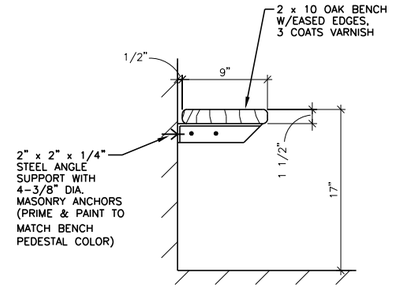
CLOSET SHELF DETAIL A911

NTS



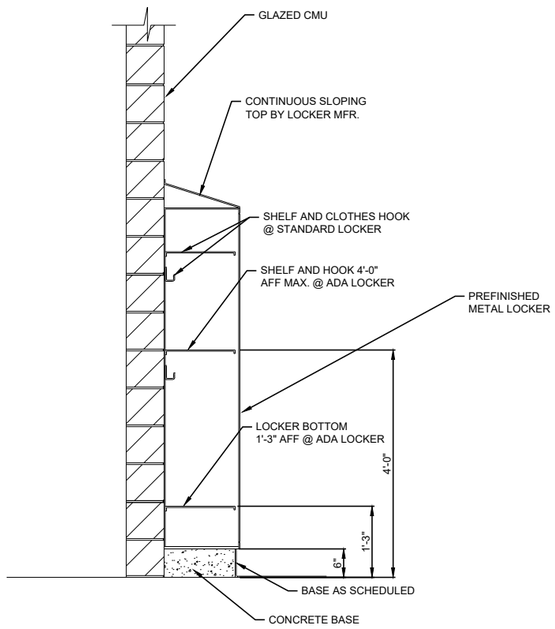
LOCKER BENCH DETAIL A913

NTS



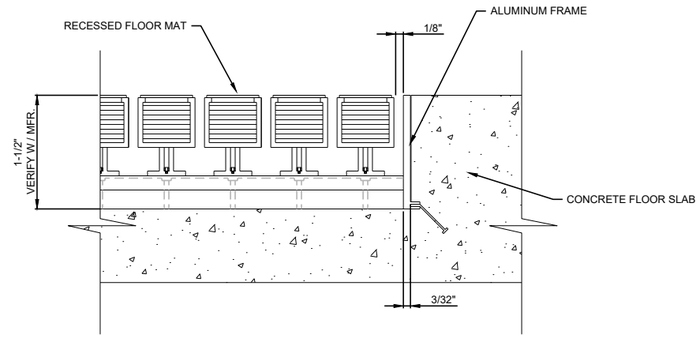
BENCH DETAIL A914

NTS



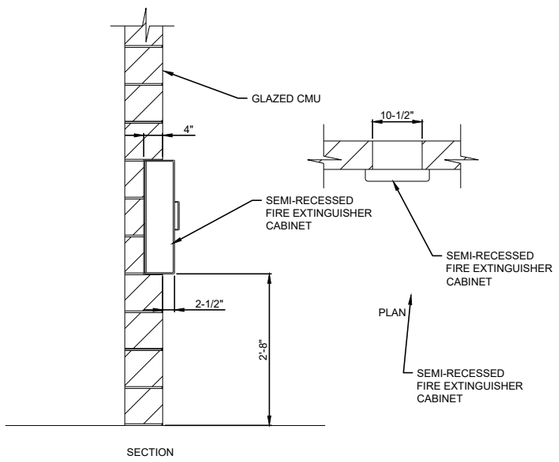
LOCKER SECTION A916

0 1' 4'



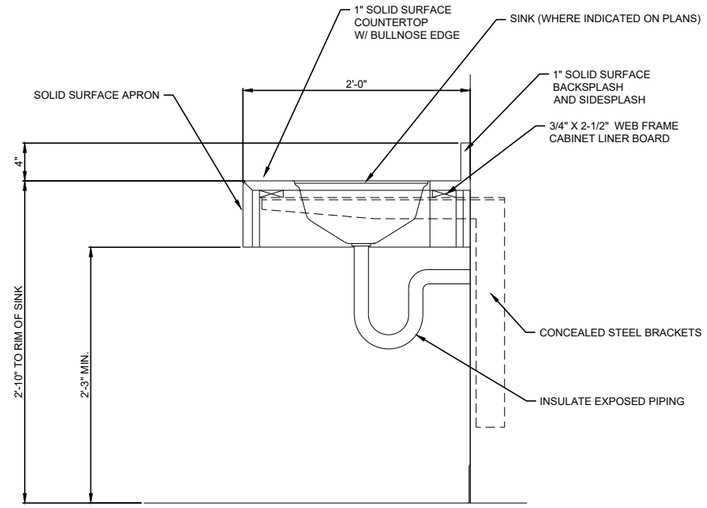
RECESSED FLOOR MAT A918

0 1' 4'



FIRE EXT. CABINET DETAIL A919

0 1' 4'



TOILET ROOM VANITY A920

Revision Number	Revision Description	Drawn By	Checked By	Date
02	ADDENDUM NO. 2	SRW	TJB	01/08/2019

Designed By	SRW
Drawn By	SRW
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Sheet No. 343

Drawing No. 999-A-10