A23 PROPOSED FINAL SITE TOPOGRAPHY

1. Material storage areas

Construction waste material

3. Fuel storage areas and fueling stations

3. HDPE, PVC, RCP, or Ductile Iron Pipe

6. Sanitary waste from temporary toilet facilities

9. Soil tracking off site from construction equipment

5. Leaking vehicles and equipment

B1 DESCRIPTION OF POTENTIAL POLLUTANT SOURCES ASSOCIATED WITH CONSTRUCTION ACTIVITIES

The following potential pollutant sources may be associated with construction activities on site:

The following materials may be staged or stored on site at various points during construction:

4. Precast concrete, HDPE, or PVC drainage and sanitary structures

Refer to the Site Grading Plan

4. Exposed soils

Windblown dust

 Structural fill 2. Pavement base stone

B2 SEQUENCE DESCRIBING STORMWATER QUALITY MEASURE IMPLEMENTATION RELATIVE TO LAND-DISTURBING ACTIVITIES Pre-construction Activity 1. The exact locations of all existing utilities within the project limits are to verified prior to construction. 2. Schedule pre-construction meeting with local stormwater authority 48 hours prior to start of construction. 3. Install protection fencing for existing trees to remain in place within the project limits Construction Site Access 2. Post the NOI and contact information at the construction entrance. NOI to remain posted for duration of the project. 3. Install construction staging pads, fueling station, material storage areas, concrete washout, construction parking areas, and stabilize construction routes 1. Utilize the gravel construction entrance for installation of the perimeter silt fence. Add stone if needed. Initial Land Clearing and Grading Activities 1. Add protection measures to existing inlets. 2. Strip the topsoil and stabilize the topsoil stockpile. Secondary Land Grading Activities 1. Begin site grading/construction of detention basins (if applicable) and stabilize any soil stockpiles that will be left dormant for 2. Complete the cut and fills on the site. Final grade and seed the pond slopes (if applicable). Stabilize slopes with erosion control 3. Install storm sewer system and install inlet protection immediately upon complete of the inlet and install rip-rap outlet protection

1. Apply temporary seeding and stabilize slopes in areas where rough grading has been completed.

2. Apply permanent seeding and stabilize slopes in areas where final grading has been completed.

1. Prior to building construction install stone surface for paved areas.

4. Install landscaping plant material and stabilize all disturbed areas.

2. Apply permanent seeding around the perimeter of the site. 3. Complete utility installation, curbs, paving, and building construction.

Erosion Control Plan for locations and the Erosion Control Details for details.

B6 STORM SEWER INLET PROTECTION MEASURE LOCATIONS AND SPECIFICATIONS

B5 SEDIMENT CONTROL MEASURES FOR CONCENTRATED FLOW AREAS

be installed as soon as the inlets are installed or shortly thereafter.

Riprap aprons will be utilized for protection at stormater outlet points.

B11 TEMPORARY SURFACE STABILIZATION METHODS APPROPRIATE FOR EACH SEASON

If this is not possible, then silt fencing will need to be installed along the back of curbs.

mixing of fertilizer if planting will not follow placing of planting soil within a few days.

6.) Rake seed lightly into top 1/8 inch of soil, roll lightly, and water with a fine spray.

7.) Install erosion control blankets as indicated on the Erosion Control Plan.

B3 STABLE CONSTRUCTION ENTRANCE LOCATIONS AND SPECIFICATIONS

Refer to the Erosion Control Details for details.

B4 SEDIMENT CONTROL MEASURES FOR SHEET FLOW AREAS

2. Building pads left dormant for more than 10 days, must be temporarily seeded.

1. Utilize topsoil salvage in applicable areas and apply permanent seeding.

3. Start building construction. Install staging area for building materials and stabilize.

5. Remove all erosion and sediment control practices when areas have a uniform grass cover.

protection measures. Refer to the Erosion Control Plan for locations and the Erosion Control Details for details.

Construction entrances will be in place prior to any site construction or demolition. Entrances are shown on the Erosion Control Plan.

Sheet flow areas will be protected by seed and mulch or hydroseeding. Erosion control blankets will be installed on sloped areas where

the slope exceeds 4:1 (horizontal to vertical). Silt fencing will be utilized to prevent sedimentation from leaving the site. Refer to the

Proposed swales will be stabilized with erosion control blankets. Straw bales and silt fences will not be allowed as concentrated flow

The contractor shall install appropriate inlet protection measures at each inlet. Refer to the Erosion Control Plan for locations and the

Erosion Control Details for details. Straw bales will not be allowed as inlet protection measures. These inlet protection measures should

B10 LOCATION, DIMENSIONS, SPECIFICATIONS, AND CONSTRUCTION DETAILS OF EACH STORMWATER QUALITY MEASURE

Refer to the Erosion Control Plan for locations of each stormwater quality measure and the Erosion Control Details and Site

Surface stabilization is required on any bare or thinly vegetated areas that is scheduled or likely to remain inactive for a period of 10

1.) Loosen lawn area to a minimum depth of 6 inches. Mix soil amendments and fertilizers with topsoil at rates specified. Organic soil

amendments such as peat, compost, or manure shall be applied at 2" depth evenly over soil and incorporated into the top 6" of topsoil.

Provide fertilizer with percentage of nitrogen required to provide not less than 1 pound of actual nitrogen per 1,000 square feet of lawn

area and not less than 4 percent phosphoric acid and 2 percent potassium. At least 50 percent of nitrogen to be organic form. Delay

3.) Slow-release fertilizer for trees and shrubs: granular fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorous and

4.) Grade lawn and grass areas to a smooth, even surface with loose, uniformly fine texture. Limit fine grading to areas that can be

planted within immediate future. Remove trash, debris, stones larger than 1 inch diameter, and other objects that may interfere with

5.) Distribute seed evenly over entire area by sowing equal quantity in 2 directions at right angles to each other.

uniformly to form a continuous blanket not less than 1-1/2 inches loose measurements over seeded areas.

disposed in the manner specified by federal, state, or local regulations or by the manufacturer

Use containment berms in fueling and maintenance areas and where potential for spills is high.

accumulations of sediment must be removed a frequency sufficient to minimize off-site impacts.

prevention plan by the operator following on-site location of said facilities.

supply or private well approved by the State or local health department.

planting or maintenance operations. Sow seed using a spreader of seeding machine. Do not seed when wind velocity exceeds 5 miles

8.) Protect seeded areas against erosion by spreading clean, seed-free straw mulch after completion of speeding operations. Spread

9.) Water newly planted lawn areas and keep moist until new grass is established. Immediately repair any lawn areas disturbed by

10.) Refer to the Permanent Seeding Details within the Erosion Control Detail Sheet, for timing of permanent seeding, grass seed

No solid material, including building materials, is permitted to be discharged to surface waters or buried on site. All solid waste materials,

including disposable materials incidental to construction activity, must be collected in containers or closed dumpsters. The collection

containers must be emptied periodically and the collected material hauled to a landfill permitted by the State and/or appropriate local

A foreman or supervisor should be designated in writing to oversee, enforce, and instruct construction workers on proper solid waste

A foreman or supervisor should be designated in writing to oversee, enforce, and instruct construction workers on proper hazardous

waste procedures. The location of any hazardous waste storage areas should be indicated on the stormwater pollution prevention plan

During construction, water trucks should be used, as needed, by each contractor or subcontractor to reduce dust. After construction, the

Construction traffic should enter and exit the site at a Construction Entrance with a rock pad or equivalent device. The purpose of the

rock pad is to minimize the amount of soil and mud that is tracked onto existing street. If sediment escapes the construction site, off-site

Contractors and subcontractors must comply with all state and local sanitary sewer, portable toilet, or septic system regulations. Sanitary

facilities shall be provided at the site by each contractor or subcontractor throughout construction activities. The sanitary facilities should

responsibility of the contractors and subcontractors. The location of any sanitary facilities should be indicated on the stormwater pollution

be utilized by all construction personnel and be serviced regularly. All expenses associated with providing sanitary facilities are the

Water used to establish and maintain grass, to control dust, and for other construction purposes must originate from a public water

Whenever possible, minimize the use of hazardous materials and generation of hazardous wastes. All hazardous waste materials will be

2.) Fertilizer for lawns: provide a fast release fertilizer with a composition of 1 lb per 1,000 square feet of actual nitrogen, 4 percent

lays or more. Refer to the Temporary Seeding Detail within the Erosion Control Details for specifics on soil amendments, seed mixture

and mulching. The surface stabilization for the lots needs to be established as soon as possible to prevent dirt wash-out into the streets.

prior to installing outlets.

Final Shaping/Landscaping

B7 RUNOFF CONTROL MEASURES

B8 STORMWATER OUTLET PROTECTION MEASURES

B9 GRADE STABILIZATION STRUCTURE LOCATIONS

B12 PERMANENT SURFACE STABILIZATION SPECIFICATIONS

phosphorous, and 2 percent potassium by weight.

potassium made up of a composition by weight of 5 percent.

construction activities including tree and shrub installation

specifications and mulching specifications.

municipality to accept the waste for disposal.

by the operator following on-site location of the facility.

Dust Control/Off-Site Vehicle Tracking

site should stabilized to reduce dust

Solid Waste Disposal

procedures.

B13 MATERIAL HANDLING AND SPILL PREVENTION PLAN

Equipment Fueling and Storage Areas Equipment fueling, maintenance, and cleaning should only be completed in protected areas (i.e., bermed area). Leaking equipment and maintenance fluids will be collected and not allowed to discharge onto soil where they may be washed away Equipment wash-down (except wheel washes) should take place within an area surrounded by a berm. The use of detergents is

prohibited. Chemicals, paint, solvents, fertilizers, and other toxic or hazardous materials should be stored in their original containers (if

original container is not resealable, store the products in a clearly labeled, waterproof container). Except during application, the containers should be kept in trucks or in bermed areas within covered storage facilities. Runoff containing such materials shall be collected, removed from the site, and disposed of in accordance with the federal state, and local regulations. As may be required by federal, state or local regulations, the Contractor should have a Hazardous Materials Management Plan

and/or Hazardous Materials Spill and Prevention Program in place. A foreman or supervisor should be designated in writing to oversee, enforce, and instruct construction workers on proper hazardous materials storage and handling procedures. The location of any hazardous material storage areas should be indicated on the stormwater pollution prevention plan by the operator following on-site location of the storage areas.

Discharge of hazardous substances or oil into stormwater is subject to reporting requirements. In the event of a spill of a hazardous substance, the operator is required to notify the National Response Center (1-800-424-8802) to properly report the spill. In addition, the operator shall submit a written description of the release (including the type and amount of material released, the date of the release, the circumstances of the release, and the steps to be taken to prevent future spill) to the local governing authority. The SWPPP must be revised within 14 calendar days after the release to reflect the release, stating the information above along with modifications minimize the possibility of future occurrences. Each contractor and subcontactor is responsible for complying with these reporting requirements.

All concrete trucks waste material shall be completely contained and disposed in accordance with all local, state, and federal regulations. A pit or container is required when cleaning concrete chutes.

Minor - Small spills that typically involve oil, gasoline, paint, hydraulic fluid, etc. can be controlled by the first responder at the discovery of the spill. • Contain spill to prevent material from entering storm or groundwater. Do not flush with water or bury. • Use absorbent material to clean-up spill material and any subsequently contaminated soil and dispose of properly. Semi-Significant Spills - Approximately ten gallons or less of pollutant with no contamination of ground or surface waters. Minor spills can be generally controlled by the first responder with help from other site personnel. This response may require other

operations to stop to make sure the spill is quickly and safely addressed. At the discovery of the spill: • Contain spill to prevent material from entering storm or ground water. Do not flush with water or bury. • Use absorbent material to clean-up spills and dispose of properly. Spills on impervious surfaces should be disposed of as soon as possible to prevent migration deeper into the soil and groundwater. Dispose of contaminated soils or absorbents

 Contact 911 if the spill could be a safety issue • Contact supervisors and designated site inspectors, including MS4 personnel, immediately. • Contaminated solids are to be removed to an approved landfill.

Major or Hazardous Spills - More than ten gallons, there is the potential for death, injury or illness to humans or animals, or has the potential for surface or groundwater pollution • Control or contain the spill without risking bodily harm. Temporarily plug storm drains if possible to prevent migration of the spill into the stormwater system

• Immediately contact the local Fire Department at 911 to report any hazardous material spill. Contact supervisors and designated site inspectors immediately. Governing authorities, including MS4 personnel, responsible for stormeater facilities should be contacted as well. The contractor is responsible for having these contact numbers available at the job site. A written report should be submitted to the owner as soon as possible

• As soon as possible but within 2 hours of discovery, contact the local agency responsible for spill management. The following information should be noted for future reports to the agency: Name, address and phone number of person making the spill report

 The location of the spill • The time of the spill • Identification of the spilled substance

• Approximate quantity of the substance that has been spilled or may be further spilled The duration and source of the spill

 Name and location of the damaged waters • Name of spill response organization • What measures were taken in the spill response

Other information that may be significant

Additional regulations or requirement may be present. A spill response professional should be consulted to make sure all appropriate and required steps have been taken. Contaminated solids should only be removed from the site after approval is give by the appropriate agency.

B14 MONITORING AND MAINTENANCE GUIDELINES FOR EACH PROPOSED STORMWATER QUALITY MEASURE

All impacted areas, as well as all erosion and sediment control devices, will be inspected every seven (7) calendar days and within 24 hours after a rianfall of 0.5 inch or greater. Where sites have been final or temporarily stabilized or on sites where runoff is unlikely due to winter conditions (e.g. site is covered with snow, ice, or frozen ground exists), such inspections shall be

Inspections shall be conducted and a written report prepared, by a designated and qualified person familiar with the USEPA NPDES Storm Water General Permit, this SWPPP, and the Project.

Inspection reports shall be completed including scope of the inspection, name(s) and qualifications of personnel making the inspection, the date of the inspection, observations relating to the implementation of the SWPPP, and any actions taken as a result of incidents of noncompliance noted during the inspection. The inspection report should state whether the site was in compliance or identify and incidents of noncompliance. The contractor shall keep a copy of the inspection reports on site and permanently for a period of two years following construction. The on-site reports may be requested by inspections conducted by the local governing authority.

Locations where vehicles exit the site shall be inspected for evidence of off-site sediment tracking. Each contractor and subcontractor shall be responsible for maintaining the Construction Entrance and other controls as described in this SWPPP.

Inspectors must evaluate areas used for storage of materials that are exposed to precipitation. The purpose is to ensure that materials are protected and/or impounded so that pollutants cannot discharge from storage areas. Off-site material storage areas used solely be the subject project are considered to be part of the project and must be included in the erosion control plans and site inspection reports.

Soil Stabilization Inspections Seeded areas will be inspected to confirm that a healthy stand of vegetation is maintained. The site has achieved final stabilization once all areas are covered with pavement or have a stand of vegetation with at least 70% of the background vegetation density. The density of 70% or greater must be maintained to be considered as stabilized. The operator or their representative will water, fertilize, and reseed disturbed areas as needed to achieve this goal.

Erosion and Sediment Control Inspections All controls should be inspected at least once every seven (7) calendar days and following any storm event of 0.5 inch or greater. The following is a list of inspection/maintenance practices that will be used for specific controls: 1. Geotextiles/Erosion Control Mats: Missing or loose matting must be replaced or re-anchored

2. Inlet Protection: If silt fence inlet protection is to be used, sediment should be removed when it reaches approximately one-half the height of the fence. If a sump is used, sediment should be removed when the volume of the basin is reduced by 3. Mulching: Inspect for thin or bare spots caused by natural decomposition or weather-related events. Mulch in high traffic

areas should be replaced on a regular basis to maintain uniform protection. 4. Silt Fence: Removal of built-up sediment will occur when the sediment reaches one-third the height of the fence 5. Stabilized Construction Entrance: Periodic re-grading and top dressing with additional stone. 6. Vegetation: Protect newly seeded areas from excessive runoff and traffic until vegetation is established. Establish a

watering and fertilizing schedule. 7. Good Housekeeping: Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges through screening of outfalls and daily pickup of litter.

sufficient to minimize adverse impacts. An example of this may be the situation where sediment has washed into the street and could be carried into the storm sewers by the next rainfall and/or pose a safety hazard to user of public street. Modifications/Revisions to SWPPP

In the event that sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency

Based on inspection results, any necessary modification to this SWPPP shall be implemented within seven (7) calendar days of the inspection. A modification is necessary if a control measure or operational procedure does not provide adequate pollutant control. All revisions shall be recorded on a Record of Revisions within seven (7) calendar days of the inspection.

contractor/subcontractor practices could make it necessary to install more control than were originally planned. Fore example,

localized concentrations of surface runoff or unusually steep areas could required additional silt barrier or other structural

It is the responsibility of the operator to maintain effective pollutant discharge controls. Physical site conditions or

final stabilization is achieved. Contractors and subcontractors implementing this SWPPP must remain alert to the need to periodically refine and update this SWPPP in order to accomplish the intended goals. Compliance of the site with the General Construction Permit remains the responsibility of all operators that have submitted an NOI until such time as they have submitted a Notice of Termination (NOT). The permittee's authorization to discharge under the

controls. Assessing the need for and installing additional controls will be a continuing contractor/subcontractor responsibility until

General Construction Permit terminates at midnight of the day the NOT is signed. All permittees must submit an NOT within thirty (30) days after one or more of the following conditions have been met: 1. Final stabilization has been achieved on all portions of the site for which the permittee was responsbile. 2. Another operator/permittee has assumed control over all areas of the site that have not been finally stabilized

3. In residential construction operations, temporary stabilization has been completed and the residence has been transferred to the homeowner.

B15 EROSION AND SEDIMENT CONTROL SPECIFICATIONS FOR INDIVIDUAL BUILDING LOTS

The site is not currently subdivided, therefore the entire site is on this plan's Erosion Control Plan.

C1 DESCRIPTION OF POLLUTANTS AND THEIR SOURCES ASSOCIATED WITH THE PROPOSED LAND USE

The proposed land use is for the construction of the Franklin Flats development. The pollutants and sources of each pollutant normally expected from this type of land use are:

Pollutant Source: Passenger vehicles, delivery vehicles. Type of Pollutant: Oil, gasoline, diesel fuel, any hydrocarbon associated with vehicular fuels and lubricants, grease, antifreeze, windshield cleaner solution, brake fluid, dust, rubber, glass, metal and plastic fragments, grit, road de-icing materials.

Pollutant Source: Building Type of Pollutant: Cleaning solutions or solvents, leaks from HVAC equipment, grit from roof drainage, aggregate or rubber

fragments from roofing system.

Pollutant Source: Trash Dumpster Type of Pollutant: Cleaning solutions or solvents, litter (paper, plastic, general refuse associated with distribution operations), uneaten food products, bacteria.

Pollutant Source: Parking Lot Type of Pollutant: Any pollutant associated with vehicular sources, grit from asphalt wearing surface, bituminous compounds from periodic maintenance (sealing, resurfacing, and patching), pavement de-icing materials, paint fragments from parking stall striping, concrete fragments, wind-blown litter from off-site sources, elevated water temperatures from contact with impervious

Pollutant Source: Lawn and Landscape Areas Type of Pollutant: Fertilizers, soil, organic material (leaves, mulch, grass clippings)

C2 SEQUENCE DESCRIBING STORMWATER QUALITY MEASURE IMPLEMENTATION

The grass-lined channels and swales will serve as the permanent water quality features after construction is complete. The purpose of these features is to filter pollutants and sediment.

C3 DESCRIPTION OF PROPOSED POST-CONSTRUCTION STORMWATER QUALITY MEASURES

Vegetated swales are designed to reduce pollutant and sediment loads in stormwater runoff. Stormwater runoff is directioned in the swale which conveys the runoff from the site. While moving through the swale, runoff velocity is greatly decreased allowing biofiltration (uptake of nutrients by plants), infiltration (percolation of water through the swale's porous soil substrate), and sedimentation (settling of later suspended particles).

Topsoil will be placed in lawn areas and seeded with grass, and graded not to exceed 3:1 slopes. Proposed landscape trees and shrubs will also be added. These bio areas will act as a natural filter strip to help improve stormwater quality. The vegetated areas will slow the velocities of stormwater runoff, reduce sediment runoff, and reduce problems associated with mud or dust from bare soils.

Wet ponds included a permanent pool for water quality treatment and are effective for pollutant removal and peak rate mitigation. The primary treatment mechanism is settling by gravity of particulates and their associated pollutants while stormwater is

Good housekeeping measures such as regular street or pavement sweeping, installation of trash receptacles, and reduction in fertilizer overspray can be incorporated by the owner and/or occupant.

C4 LOCATION, DIMENSIONS, SPECIFICATIONS, AND CONSTRUCTION DETAILS OF EACH STORMWATER QUALITY MEASURE Refer to the Erosion Control Plans for locations and Erosion Control Details for details.

C5 DESCRIPTION OF MAINTENANCE GUIDELINES FOR POST-CONSTRUCTION STORMWATER QUALITY MEASURES

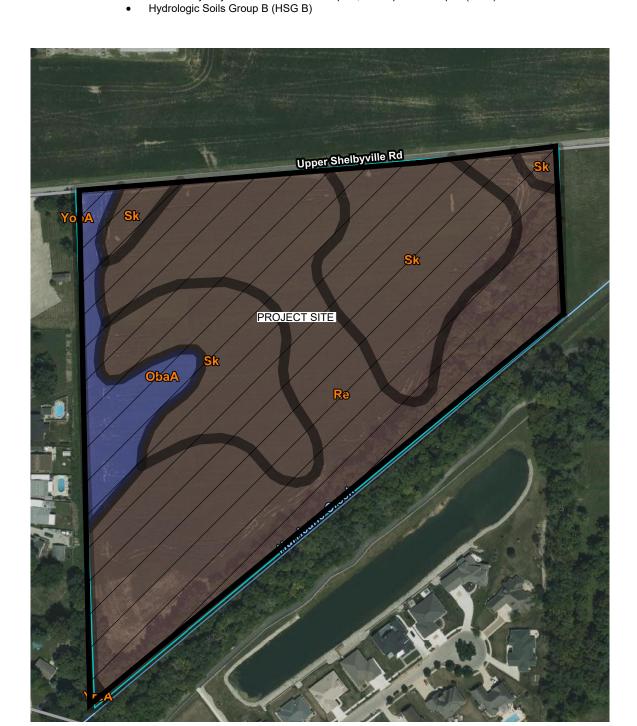
Maintenance requirements for the stormwater quality measures which will remain in place after construction is complete, are described below.

Vegetated Swale Vegetated swales require little maintenance if properly designed. Mow as needed during the growing season; inspect for erosion

control problems twice during the first year, annually thereafter; and removed sediment, trash and debris annually or more Wet Detention Pond

Remove debris and sediment from entire pond when necessary. Inspect perimeter of basin annually and after major storm events. Regrade soil if gullies form and replant ground. Inspect inlet and outlet devices and structures annually and after major

> SOILS MAP Ockley Loam, 0 to 2 percent slopes (ObaA) Hydrologic Soils Group B (HSG B) Rensselaer silty clay loam (Re) • Hydrologic Soils Group B (HSG B) Sleeth loam (Sk) Hydrologic Soils Group B (HSG B) Ockley Loam-Urban Land Complex, 0 to 2 percent slopes (YobA) Hydrologic Soils Group B (HSG B) Rensselaer sility clay loam-Urban Land Complex, 0 to 2 percent slopes (YreA)





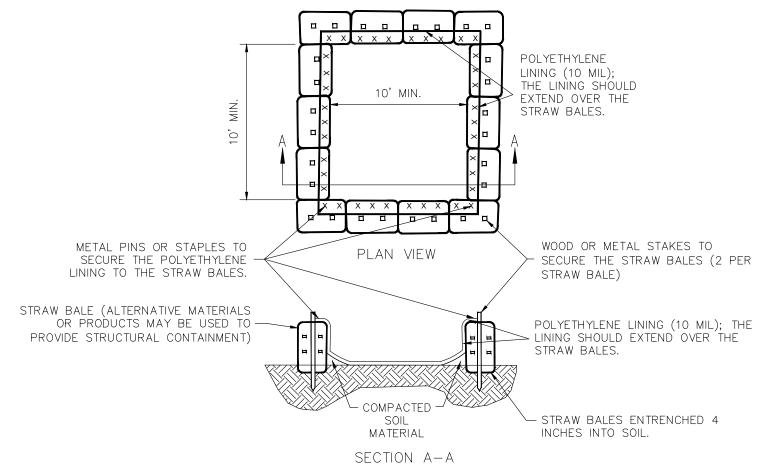




FILENAME 1582SE

08/10/2021

JOB NO. 11582



CONCRETE WASHOUT (ABOVE GRADE)

<u>INSTALLATION:</u>

PREFABRICATED WASHOUT SYSTEMS/CONTAINERS:

1. INSTALL AND LOCATE ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

DESIGNED AND INSTALLED SYSTEMS:

- 2. UTILIZE AND FOLLOW THE DESIGN IN THE STORM WATER POLLUTION PREVENTION PLAN TO INSTALL THE SYSTEM.
 3. DEPENDENT UPON THE TYPE OF SYSTEM, EITHER EXCAVATE THE PIT OR INSTALL THE CONTAINMENT SYSTEM.
- 4. A BASE SHALL BE CONSTRUCTED AND PREPARED THAT IS FREE OF ROCKS AND OTHER DEBRIS THAT MAY CAUSE TEARS OR PUNCTURES IN THE POLYETHYLENE LINING.
 5. INSTALL THE POLYETHYLENE LINING. FOR EXCAVATED SYSTEMS, THE LINING SHOULD EXTEND OVER THE ENTIRE EXCAVATION. THE LINING FOR BERMED SYSTEMS SHOULD BE INSTALLED OVER THE POOLING AREA WITH ENOUGH MATERIAL TO EXTEND THE LINING OVER THE BERM OR CONTAINMENT SYSTEM. THE LINING SHOULD BE SECURED WITH PINS, STAPLES, OR OTHER
- FASTENERS.
 6. PLACE FLAGS, SAFETY FENCING, OR EQUIVALENT TO PROVIDE A BARRIER TO CONSTRUCTION EQUIPMENT AND OTHER TRAFFIC.
- 7. PLACE A NON-COLLAPSING, NON-WATER HOLDING COVER OVER THE WASHOUT FACILITY PRIOR TO A PREDICTED RAINFALL EVENT TO PREVENT ACCUMULATION OF WATER AND POSSIBLE
- OVERFLOW OF THE SYSTEM (OPTIONAL).
 8. INSTALL SIGNAGE THAT IDENTIFIES CONCRETE WASHOUT AREAS.
- 9. POST SIGNS DIRECTING CONTRACTORS AND SUPPLIERS TO DESIGNATED LOCATIONS.
 10. WHERE NECESSARY, PROVIDE STABLE INGRESS AND EGRESS OR ALTERNATIVE APPROACH PAD FOR CONCRETE WASHOUT SYSTEMS.

MAINTENANCE:

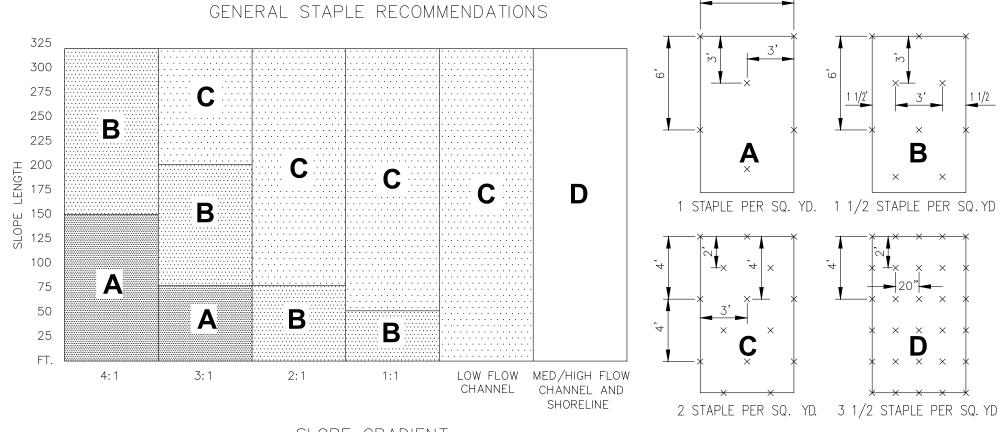
- 11. INSPECT DAILY AND AFTER EACH STORM EVENT.
- 12. INSPECT THE INTEGRITY OF THE OVERALL STRUCTURE INCLUDING, WHERE APPLICABLE, THE CONTAINMENT SYSTEM.
- 13. INSPECT THE SYSTEM FOR LEAKS, SPILLS, AND TRACKING OF SOIL BY EQUIPMENT.
 14. INSPECT THE POLYETHYLENE LINING FOR FAILURE, INCLUDING TEARS AND PUNCTURES.
- 14. INSPECT THE POLYETHYLENE LINING FOR FAILURE, INCLUDING TEARS AND PUNCTURES.

 15. ONCE CONCRETE WASTES HARDEN, REMOVE AND DISPOSE OF THE MATERIAL.
- 16. EXCESS CONCRETE SHOULD BE REMOVED WHEN THE WASHOUT SYSTEM REACHES 50 PERCENT OF THE DESIGN CAPACITY. USE OF THE SYSTEM SHOULD BE DISCONTINUED UNTIL APPROPRIATE MEASURES CAN BE INITIATED TO CLEAN THE STRUCTURE. PREFABRICATED SYSTEMS SHOULD ALSO UTILIZE THIS CRITERION, UNLESS THE MANUFACTURER HAS ALTERNATE SPECIFICATIONS.
- 17. UPON REMOVAL OF THE SOLIDS, INSPECT THE STRUCTURE. REPAIR THE STRUCTURE AS NEEDED OR CONSTRUCT A NEW SYSTEM.

 18. DISPOSE OF ALL CONCRETE IN A LEGAL MANNER. REUSE THE MATERIAL ON SITE, RECYCLE, OR HAUL THE MATERIAL TO AN APPROVED CONSTRUCTION/DEMOLITION LANDFILL SITE.
- RECYCLING OF MATERIAL IS ENCOURAGED. THE WASTE MATERIAL CAN BE USED FOR MULTIPLE APPLICATIONS INCLUDING BUT NOT LIMITED TO ROADBEDS AND BUILDING. THE AVAILABILITY FOR RECYCLING SHOULD BE CHECKED LOCALLY.
- 19. THE PLASTIC LINER SHOULD BE REPLACED AFTER EVERY CLEANING; THE REMOVAL OF MATERIAL WILL USUALLY DAMAGE THE LINING.
 20. THE CONCRETE WASHOUT SYSTEM SHOULD BE REPAIRED OR FNI ARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASH
- 20.THE CONCRETE WASHOUT SYSTEM SHOULD BE REPAIRED OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE.
 21. CONCRETE WASHOUT SYSTEMS ARE DESIGNED TO PROMOTE EVAPORATION. HOWEVER, IF THE LIQUIDS DO NOT EVAPORATE AND THE SYSTEM IS NEAR CAPACITY IT MAY BE NECESSARY TO VACUUM OR REMOVE THE LIQUIDS AND DISPOSE OF THEM IN AN ACCEPTABLE METHOD. DISPOSAL MAY BE ALLOWED AT THE LOCAL SANITARY SEWER AUTHORITY PROVIDED THEIR NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMITS ALLOW FOR ACCEPTANCE OF THIS MATERIAL. ANOTHER OPTION WOULD BE TO UTILIZE A SECONDARY CONTAINMENT SYSTEM OR BASIN FOR FURTHER DEWATERING.
 22.PREFABRICATED UNITS ARE OFTEN PUMPED AND THE COMPANY SUPPLYING THE UNIT PROVIDES THIS SERVICE.
- 23.INSPECT CONSTRUCTION ACTIVITIES ON A REGULAR BASIS TO ENSURE SUPPLIERS, CONTRACTORS, AND OTHERS ARE UTILIZING DESIGNATED WASHOUT AREAS. IF CONCRETE WASTE IS BEING DISPOSED OF IMPROPERLY, IDENTIFY THE VIOLATORS AND TAKE APPROPRIATE ACTION.
- 24. WHEN CONCRETE WASHOUT SYSTEMS ARE NO LONGER REQUIRED, THE CONCRETE WASHOUT SYSTEMS SHALL BE CLOSED. DISPOSE OF ALL HARDENED CONCRETE AND OTHER MATERIALS USED TO CONSTRUCT THE SYSTEM
- USED TO CONSTRUCT THE SYSTEM.
 25.HOLES, DEPRESSIONS AND OTHER LAND DISTURBANCES ASSOCIATED WITH THE SYSTEM SHOULD BE BACKFILLED, GRADED, AND STABILIZED.

CONCRETE WASHOUT DETAIL

NOT TO SCALE



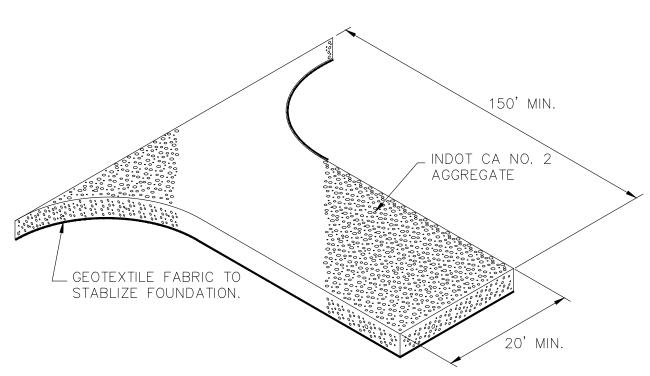
SLOPE GRADIENT

- NOTE:

 1. CHANNEL LINING UTILIZE STAPLE PATTERN "C" WITH
 ADDITIONAL STAPLES ON SIDE SLOPES AT PROJECTED WATER
- 2. STAPLE PATTERNS APPLY TO ALL NORTH AMERICAN GREEN EROSION CONTROL BLANKETS. STAPLE PATTERNS MAY VERY DEPENDING UPON SOIL TYPE AND AVERAGE RAINFALL
- 3. AT SLOPE LENGTHS GREATER THAN 300 FEET OR WHERE DRAINAGE OVER LARGE AREAS IS DIRECTED ONTO THE BLANKETS, STAPLE PATTERN "C" SHOULD BE UTILIZED

EROSION CONTROL MAT INSTALLATION GUIDE DETAIL

NOT TO SCALE



INSTALLATION NOTES:

- REMOVE ALL VEGETATION AND OTHER OBJECTIONABLE MATERIAL FROM THE FOUNDATION AREA.
 GRADE FOUNDATION AND CROWN FOR POSITIVE DRAINAGE. IF THE SLOPE OF THE
- CONSTRUCTION ENTRANCE IS TOWARD A PUBLIC ROAD AND EXCEEDS TWO PERCENT, CONSTRUCT AN EIGHT INCH HIGH DIVERSION RIDGE WITH A RATIO OF 3-TO-1 SIDE SLOPES ACROSS THE FOUNDATION AREA ABOUT 15 FEET FROM THE ENTRANCE TO DIVERT RUNOFF AWAY FROM THE ROAD.

 3. INSTALL A CULVERT PIPE UNDER THE PAD IF NEEDED TO MAINTAIN PROPER PUBLIC
- ROAD DRAINAGE.
 4. IF WET CONDITIONS ARE ANTICIPATED, PLACE GEOTEXTILE FABRIC ON THE GRADED
- FOUNDATION TO IMPROVE STABILITY.

 5. PLACE AGGREGATE (INDOT CA NO. 2) TO THE DIMENSIONS AND GRADE SHOWN IN THE CONSTRUCTION PLANS, LEAVING THE SURFACE SMOOTH AND SLOPED FOR
- DRAINAGE.
 6. TOP-DRESS THE FIRST 50 FEET ADJACENT TO THE PUBLIC ROADWAY WITH TWO TO THREE INCHES OF WASHED AGGREGATE (INDOT CA NO. 53) [OPTIONAL, USED PRIMARILY WHERE THE PURPOSED OF THE PAD IS KEEP SOIL FROM ADHERING TO VEHICLE TIRES]
- 7. WHERE POSSIBLE, DIVERT ALL STORM WATER RUNOFF AND DRAINAGE FROM THE INGRESS,/EGRESS PAD TO A SEDIMENT TRAP OR BASIN.

MAINTENANCE NOTES:

SEDIMENT TRAP OR BASIN.

- 8. INSPECT DAILY.9. RESHAPE PAD AS NEEDED FOR DRAINAGE AND RUNOFF CONTROL.
- 10. TOP DRESS WITH CLEAN AGGREGATE AS NEEDED. 11. IMMEDIATELY REMOVE MUD AND SEDIMENT TRACKED OR WASHED ONTO PUBLIC
- ROADS. 12. FLUSHING SHOULD ONLY BE USED IF THE WATER CAN BE CONVEYED INTO A

TEMPORARY CONSTRUCTION ENTRANCE DETAIL

NOT TO SCALE

SILT FENCE

- LOCATION
 INSTALLED PARALLEL TO THE SLOPE CONTOUR
 MINIMUM 10 FEET BEYOND THE TOE OF SLOPE TO PROVIDE A BROAD, SHALLOW SEDIMENT
- POOL.

 ACCESSIBLE FOR MAINTENANCE (REMOVAL OF SEDIMENT AND SILT FENCE REPAIR)

INSTALLATION

- 1. LAYOUT THE LOCATION OF THE FENCE SO THAT IT IS PARALLEL TO THE CONTOUR OF THE SLOPE AND AT LEAST 10 FEET BEYOND THE TOE OF THE SLOPE TO PROVIDE A SEDIMENT STORAGE AREA. TURN THE ENDS OF THE FENCE UP SLOPE SUCH THAT THE POINT OF CONTACT BETWEEN THE GROUND AND THE BOTTOM OF THE FENCE END TERMINATES AT A
- HIGHER ELEVATION THAN THE TOP OF THE FENCE AT ITS LOWEST POINT.

 2. EXCAVATE AN EIGHT—INCH DEEP BY FOUR—INCH WIDE TRENCH ALONG THE ENTIRE LENGTH OF THE FENCE LINE. INSTALLATION BY PLOWING IS ALSO ACCEPTABLE.
- 3. INSTALL THE SILT FENCE WITH THE FILTER FABRIC LOCATED ON THE UP-SLOPE SIDE OF THE EXCAVATED TRENCH AND THE SUPPORT POSTS ON THE DOWN-SLOPE SIDE OF THE TRENCH.
 4. DRIVE THE SUPPORT POSTS AT LEAST 18 INCHES INTO THE GROUND, TIGHTLY STRETCHING THE FABRIC BETWEEN THE POSTS AS EACH IS DRIVEN INTO THE SOIL. A MINIMUM OF 12 INCHES OF THE FILTER FABRIC SHOULD EXTEND INTO THE TRENCH. (IF IT IS NECESSARY TO JOIN THE ENDS OF THE TWO FENCE, USE THE WRAP JOINT METHOD SHOWN.)
- 5. LAY THE LOWER FOUR INCHES OF FILTER FABRIC ON THE BOTTOM OF THE TRENCH AND EXTEND IT TOWARD THE UP—SLOPE SIDE OF THE TRENCH.

6. BACKFILL THE TRENCH WITH SOIL MATERIAL AND COMPACT IT IN PLACE.

MAINTENANCE

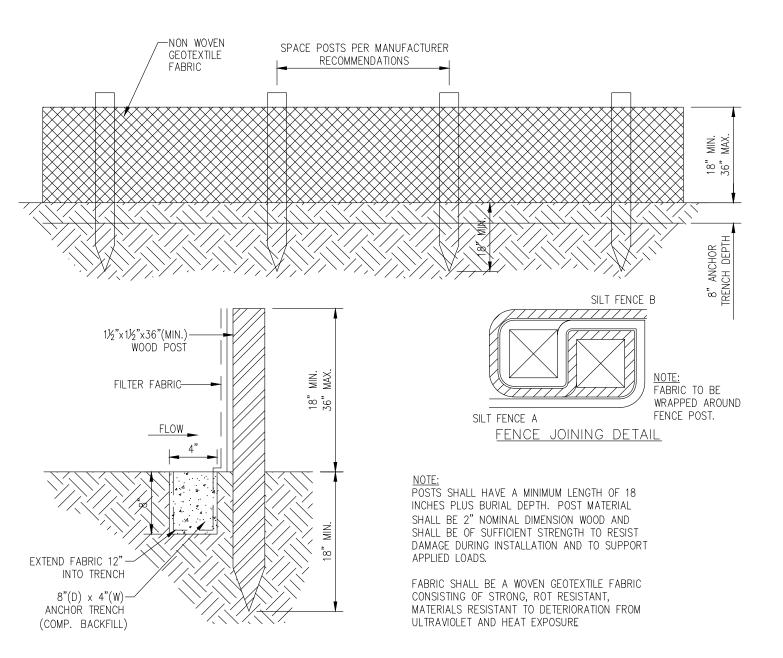
- INSPECT WITHIN 24 HOURS OF A RAIN EVENT AND AT LEAST ONCE EVERY SEVEN CALENDAR DAYS.

 IN FARRIC TEARS, STARTS TO DECOMPOSE OR IN ANY WAY RECOMES INVESTIGATION.

 THE FARRIC TEARS STARTS TO DECOMPOSE OR IN ANY WAY RECOMES INVESTIGATION.

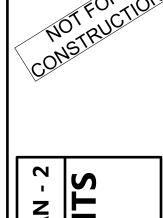
 THE FARRIC TEARS STARTS TO DECOMPOSE OR IN ANY WAY RECOMES INVESTIGATION.

 THE FARRIC TEARS STARTS TO DECOMPOSE OR IN ANY WAY RECOMES INVESTIGATION.
- IF FABRIC TEARS, STARTS TO DECOMPOSE, OR IN ANY WAY BECOMES INEFFECTIVE, REPLACE THE AFFECTED PORTION IMMEDIATELY. NOTE: ALL REPAIRS SHOULD MEET SPECIFICATIONS AS OUTLINED WITHIN THIS MEASURE.
- REMOVE DEPOSITED SEDIMENT WHEN IT IS CAUSING THE FILTER FABRIC TO BULGE OR WHEN IT REACHES ONE—HALF THE HEIGHT OF THE FENCE AT ITS LOWEST POINT. WHEN CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED, REMOVE THE FENCE AND SEDIMENT DEPOSITS, GRADE THE SITE TO BLEND WITH THE SURROUNDING AREA, AND STABILIZE.



SILT FENCE DETAIL

NOT TO SCALE



D SEDIMENT CONTROL PLA

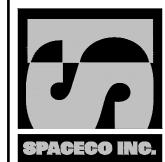
FLATS APARTMEN
SHELBYVILLE ROAD
NNKLIN, IN 46131

FRANKLIN FLATS

UPPER SHELBY
FRANKLIN.





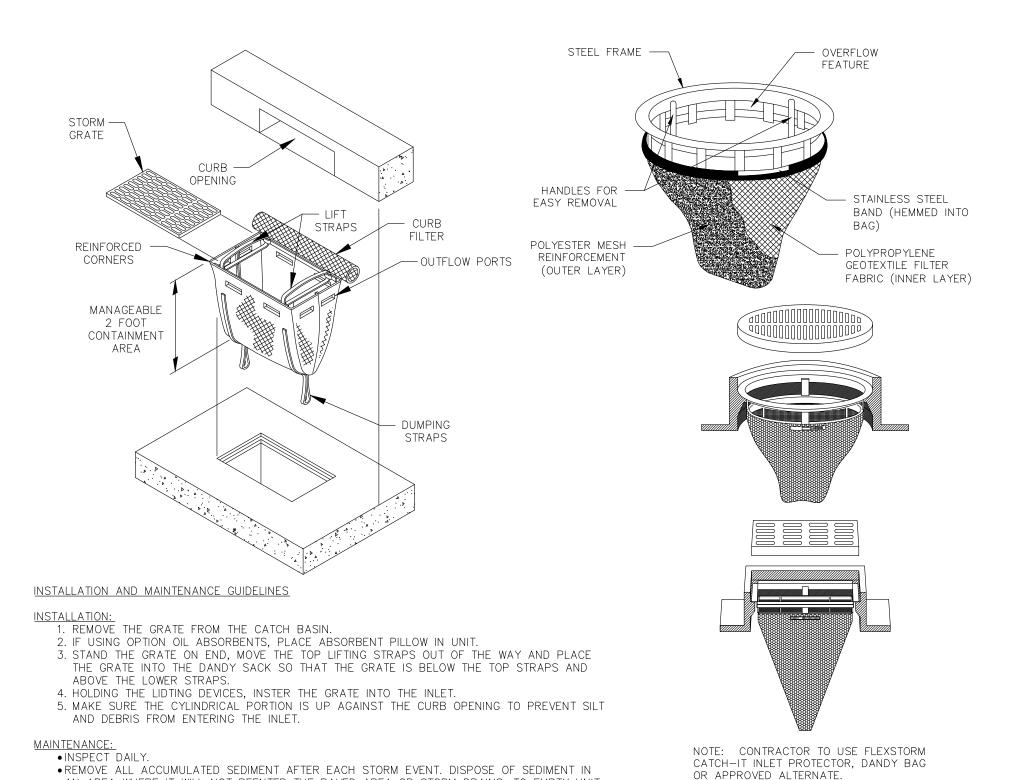


FILENAME: 11582SE

DATE: 08/10/2021

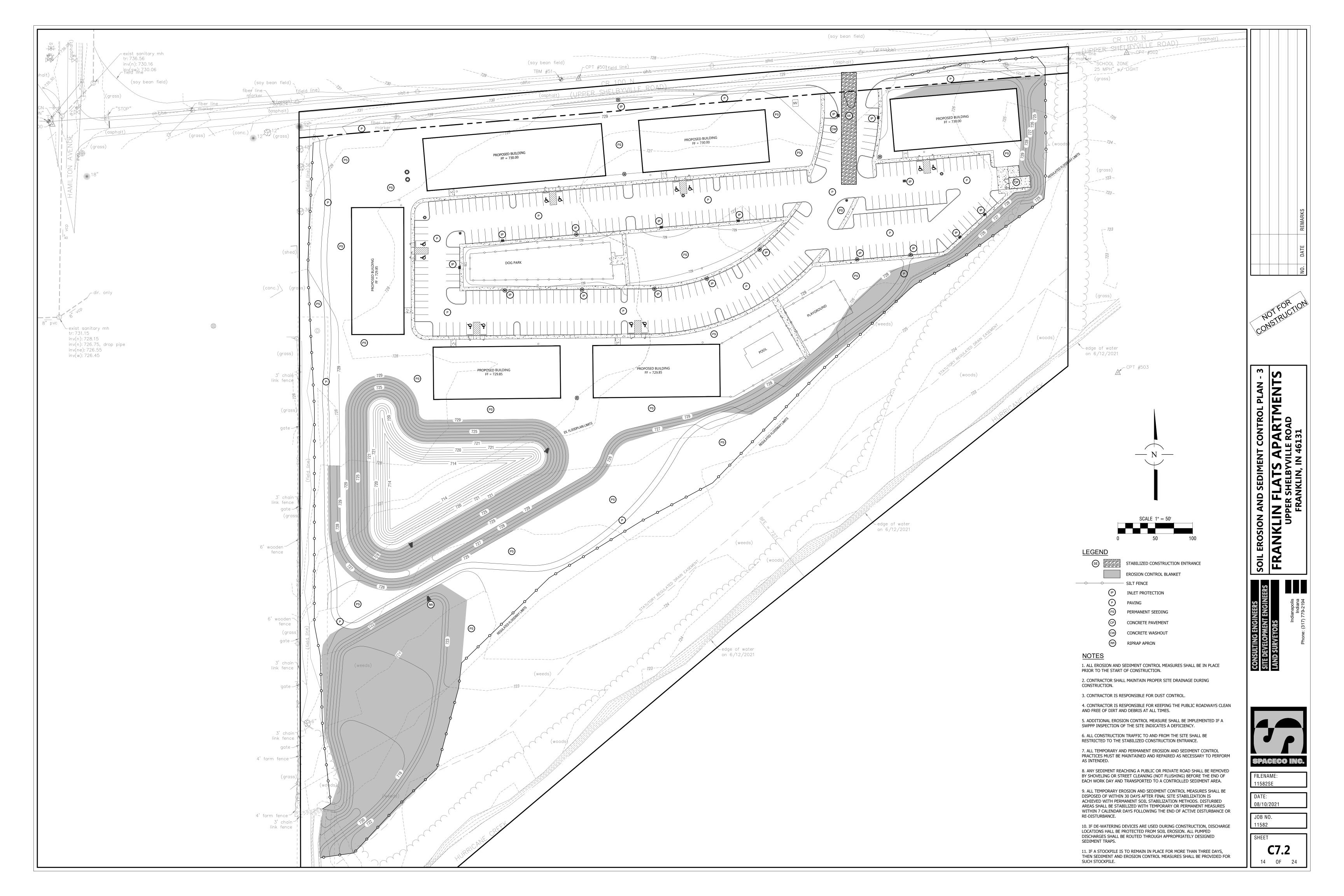
JOB NO. 11582

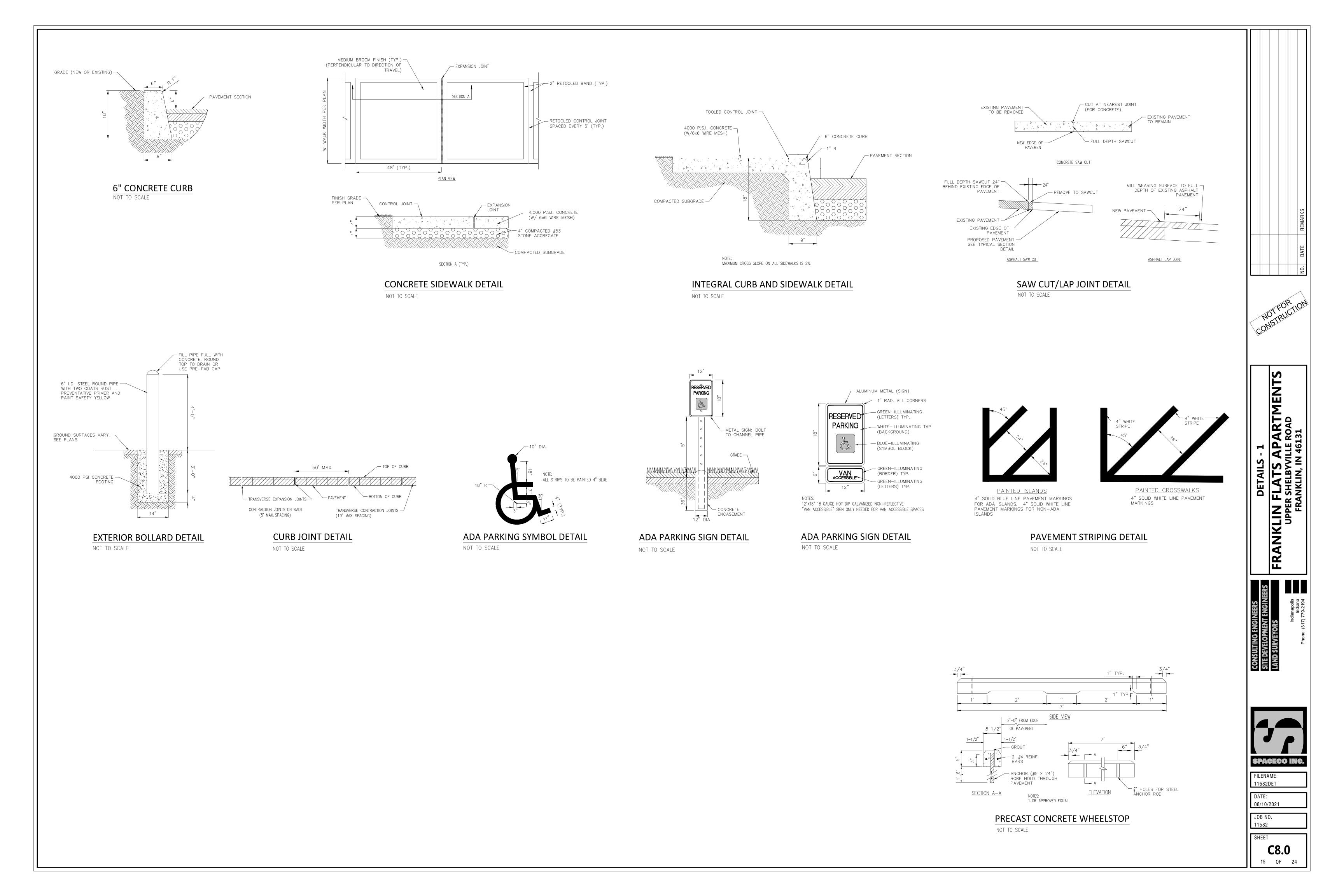
C7.1

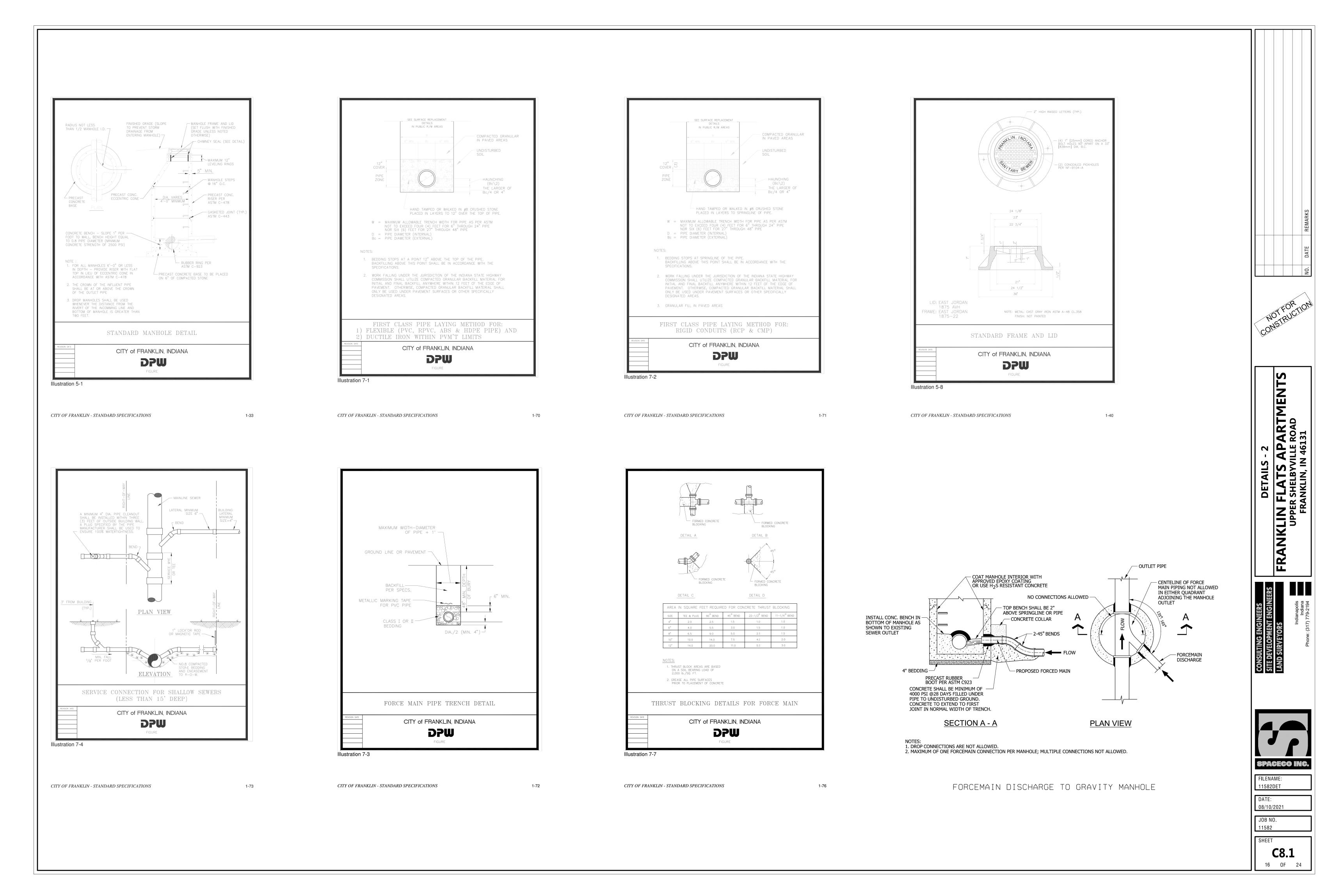


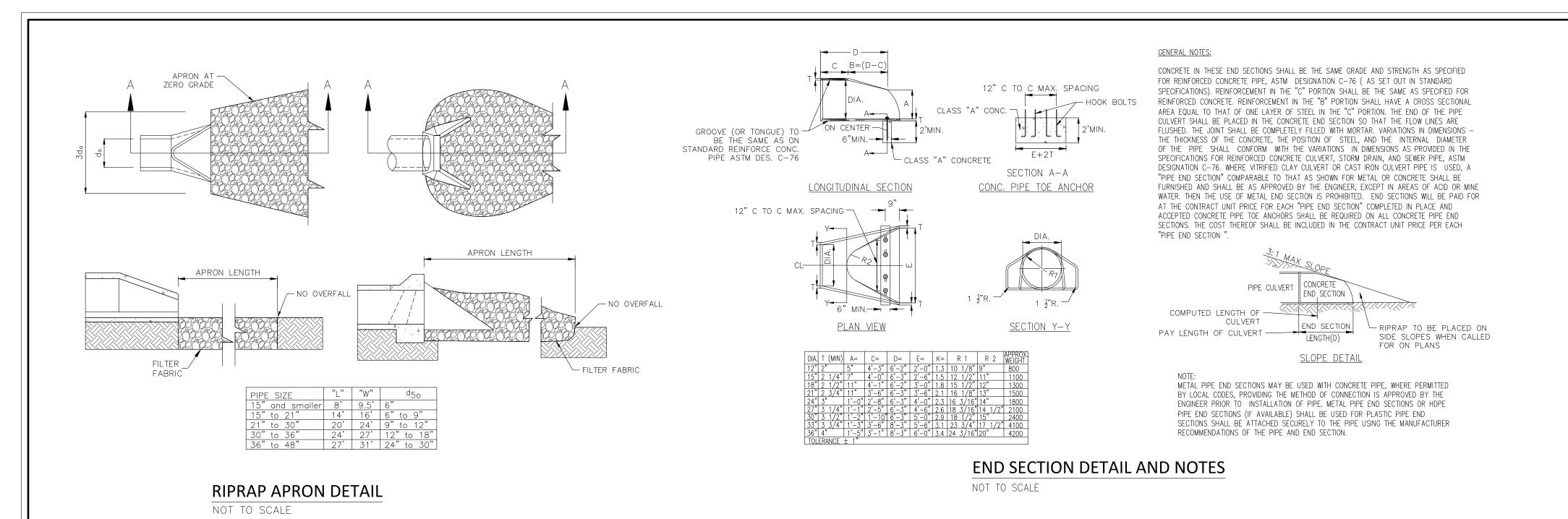
AN AREA WHERE IT WILL NOT REENTER THE PAVED AREA OR STORM DRAINS. TO EMPTY UNIT, LIFT THE UNIT OUT OF THE INLET BY USING THE LIFTING STRAPS AND REMOVE THE GRATE.

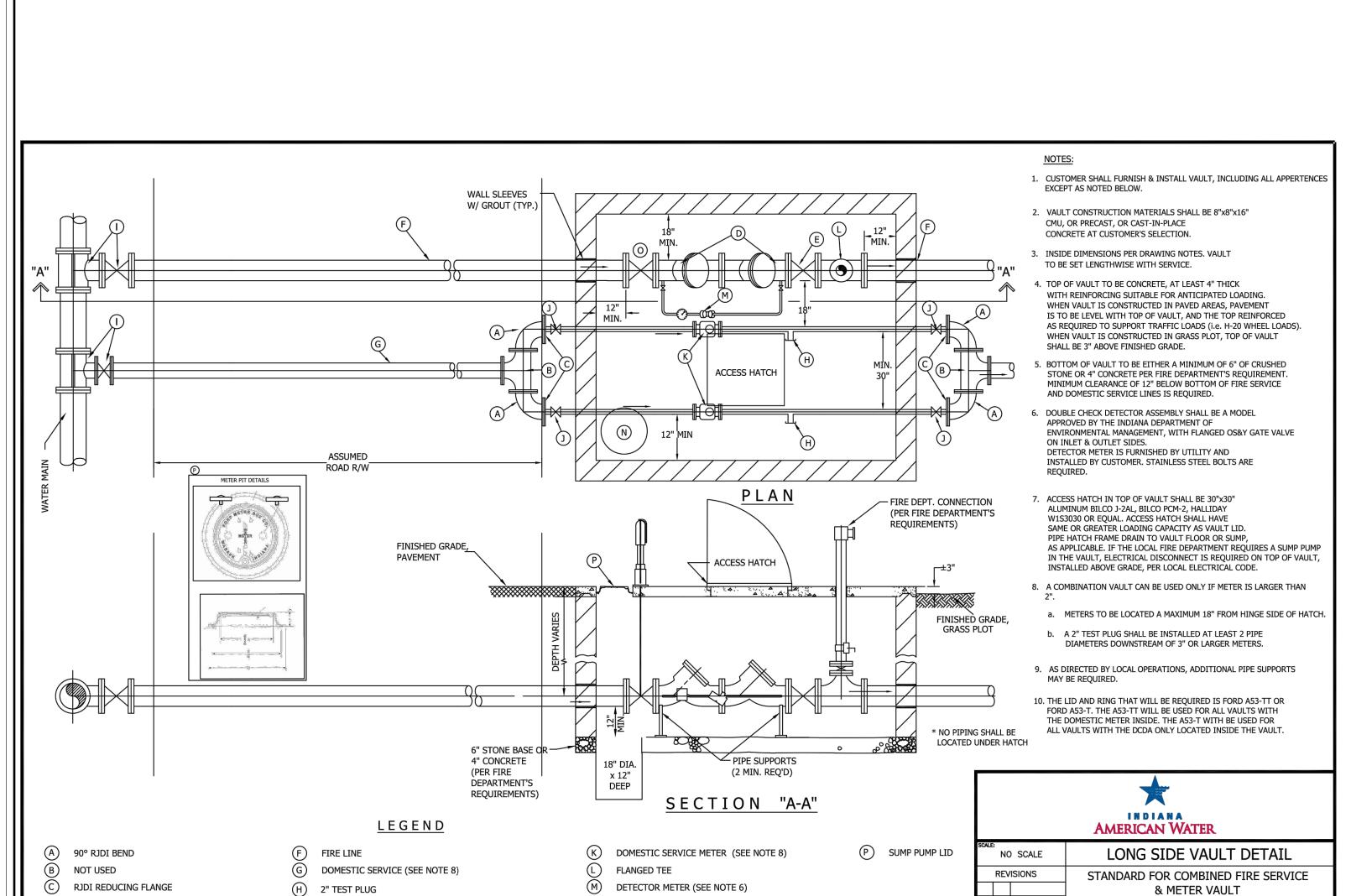
• WHEN CONTRIBUTING DRAINAGE AREA HAD BEEN STABILIZED, REMOVE INLET PROTECTION.











N) SUMP PIT

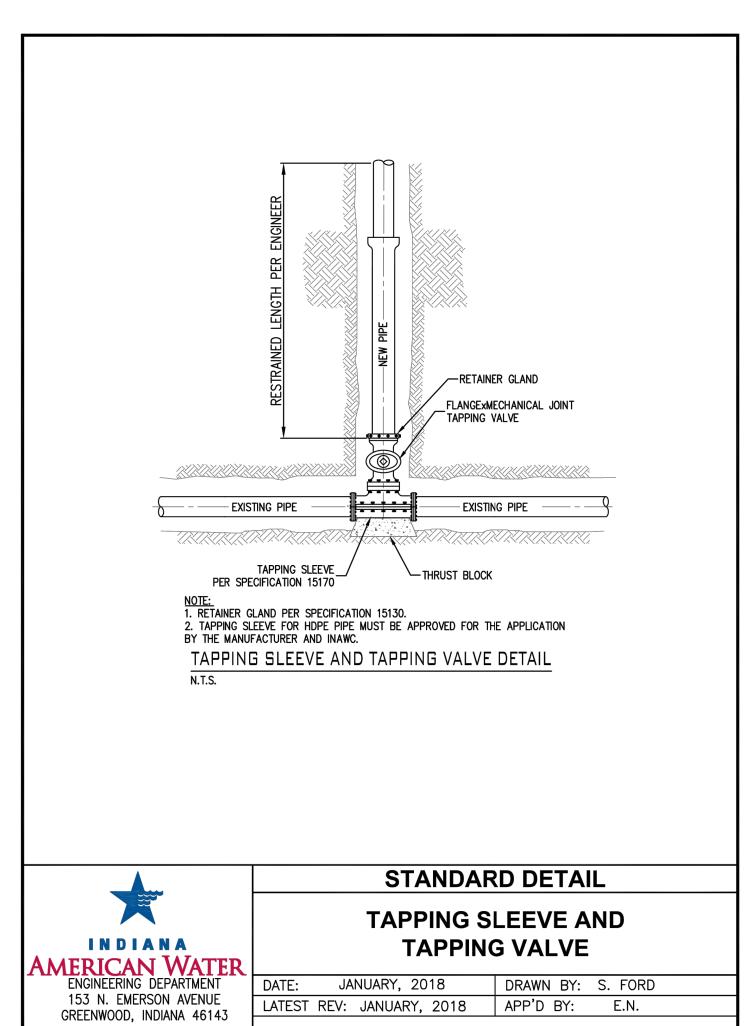
(COORDINATE W/ LOCAL UTILITY SUPERINTENDENT/MANAGER) FLANGED OS&Y VALVE WITH PIT TYPE POST INDICATOR

DOUBLE CHECK DETECTOR ASSEMBLY

FLANGED OS & Y VALVE

TAPPING SLEEVE W/ TAPPING VALVE & BOX

J RJDI GATE VALVE

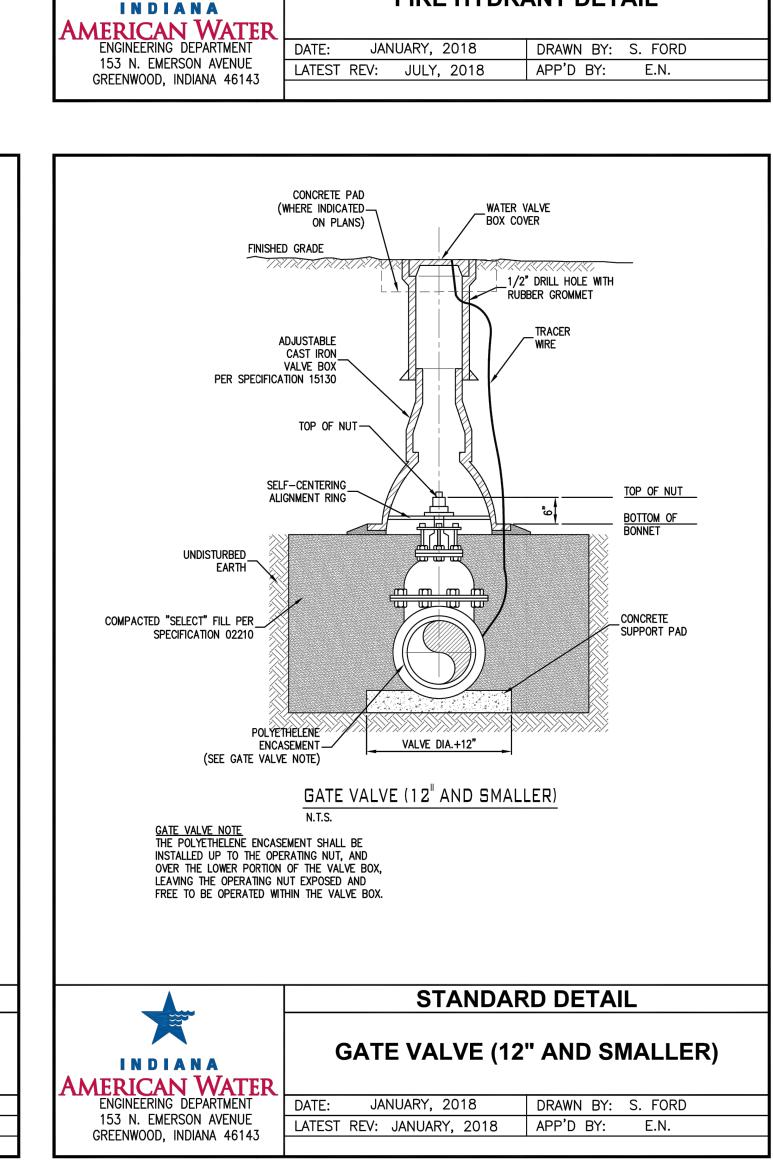


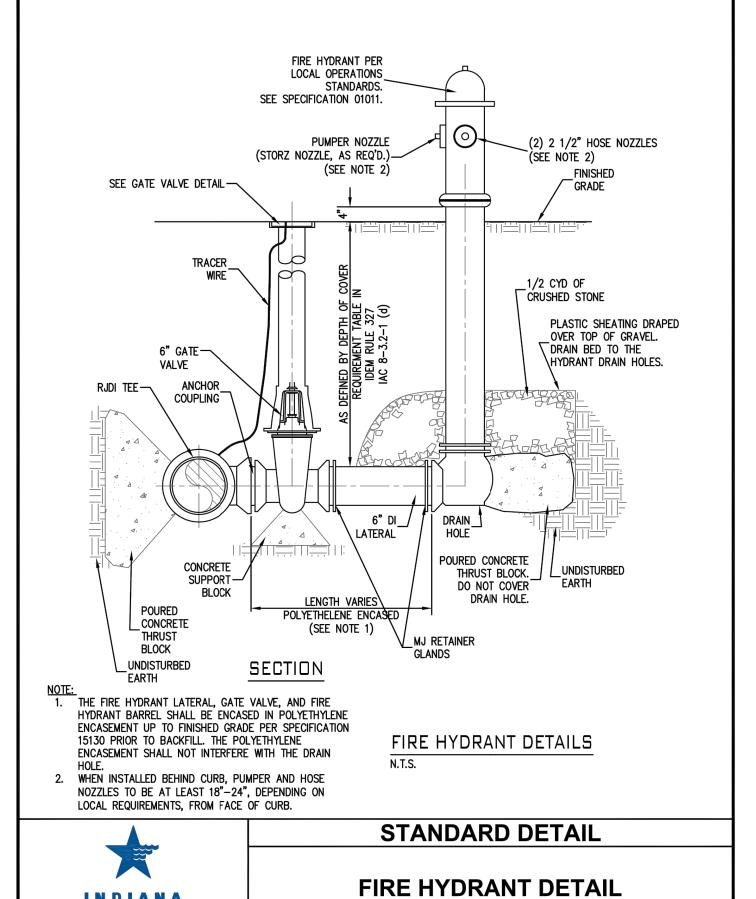
FOR DUAL METER CONFIGURATION

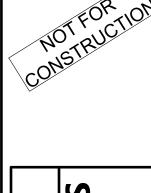
A.C.

1 of 1

R.K.B. 2/2017







ARTMENTS

PETAILS - 3
FRANKLIN FLATS APA
UPPER SHELBYVILLE R



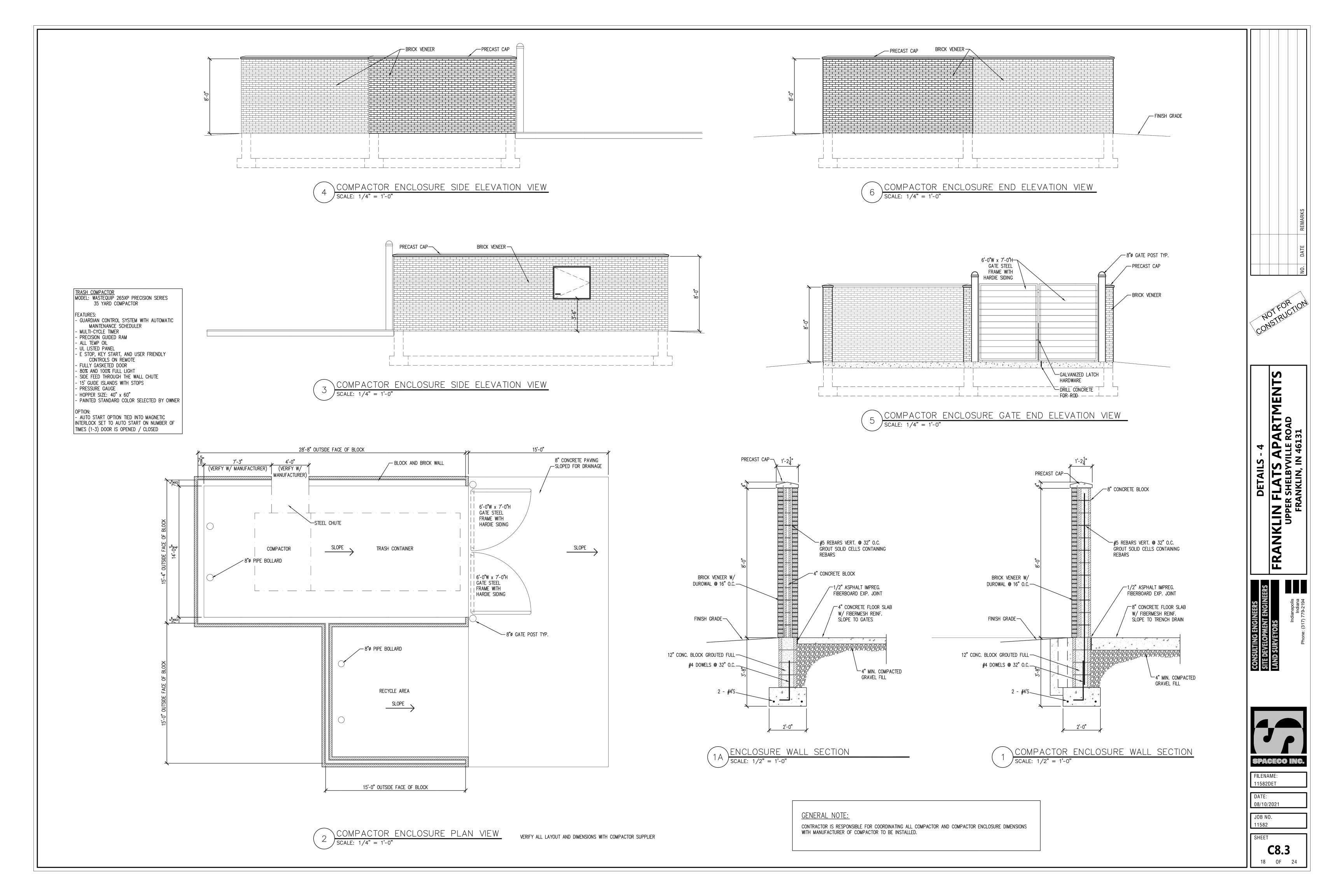


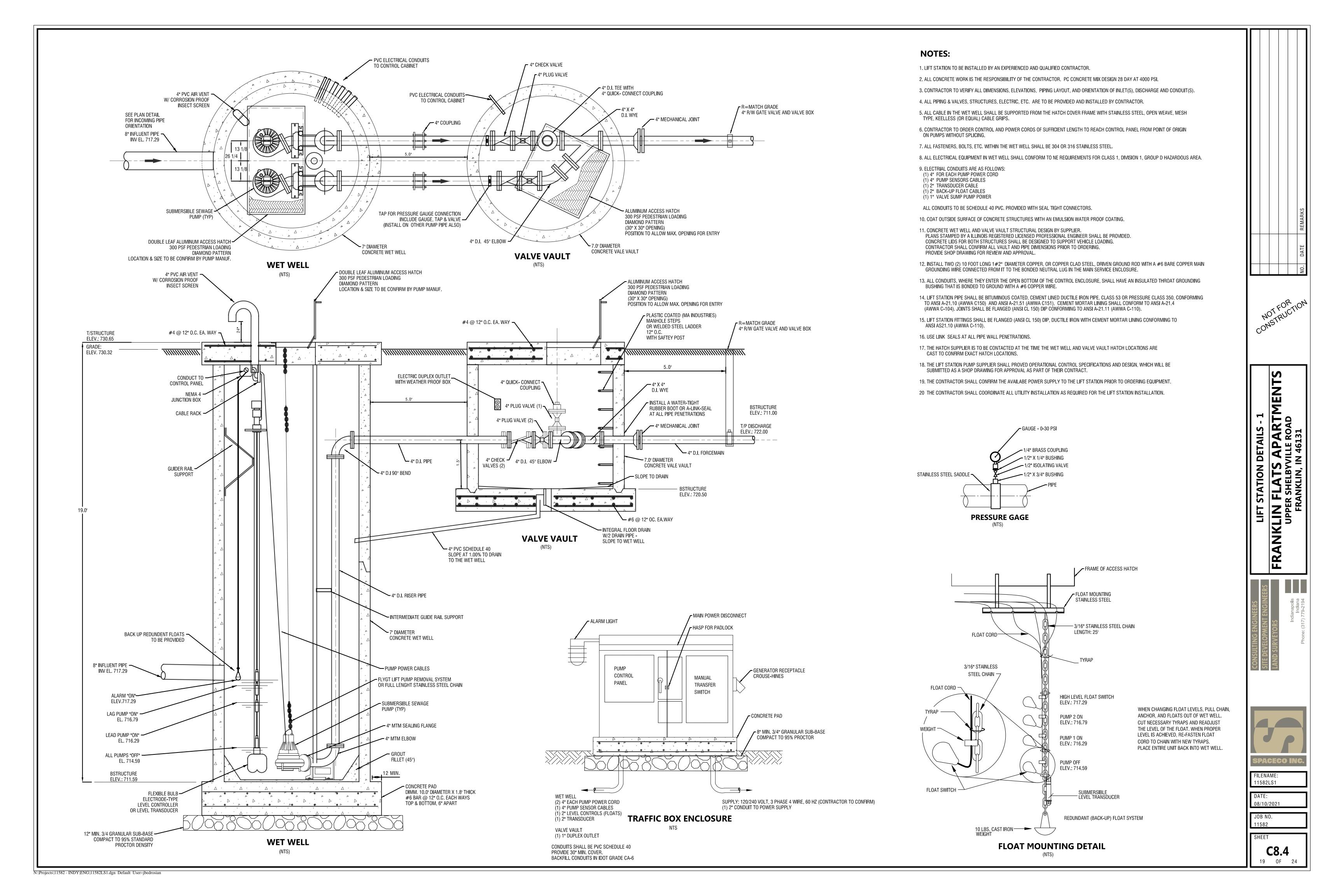
FILENAME: 11582DET

DATE: 08/10/2021

JOB NO. 11582 SHEET

C8.2





6.01 General

Furnish and install a complete lift station system. The system shall include two submersible pumps with quick disconnect system, 4" base elbows, stainless steel guide rails, discharge piping, upper & lower guide rail supports, aluminum access frame with cover for each pump, wiring bracket as required, all installed in a pre-cast concrete basin. The system shall also include a pre-cast valve vault, which shall house the discharge piping, gate valves, check valves, and sump pump. The duplex control system is to be housed in a pad mounted NEMA-3R stainless steel traffic enclosure. Structure and dimensions to be as shown on drawing.

All stations shall be designed for and operate on three (3) phase 240 volt The contractor shall confirm the available power prior to ordering the

6.02 General Requirements

A. All of the mechanical and electrical equipment shall be an integral package supplied by the pump manufacturer with local representation so as to provide undivided responsibility.

The package shall be furnished by Flygt Pump, or approved equal.

B. The Contractor shall submit for review and approval two (2) sets of shop drawings, detailed specifications, pump warranty and performance characteristics for all of the equipment and fixtures to be furnished and installed. The shop drawings and equipment data shall be submitted with a cover letter or Contractor's stamp of approval, indicating that he has reviewed, checked and approved the data submitted. The Engineer will review the submittal and render a decision in writing as to the acceptability of the equipment

C. Any exceptions to this Standard or associated approved Plans shall be submitted in writing and clearly stated. The exceptions must be approved by the Engineer prior to proceeding with the work.

D. All components of the lift station that are exposed to weather shall be constructed of material that is resistant to corrosion and will not require surface protection throughout the expected life of the lift station. In general, these materials are stainless steel, aluminum, fiberglass reinforced polyester (FRP) and ultraviolet stabilized PVC.

E. All valves and piping coming in contact with sewage or installed in the pump or valve chambers shall be coated as follows:

1. Primer - Aromatic Urethane Zinc-Rich 2.5 - 3.5 mil 2. Field Coats - Aliphatic Acrylic Polyurethane 2 coats@ 2.0 - 4.0 mil per Coat

6.03 Operating Conditions

Prior to installation the Contractor shall submit the following information for each pump to the Engineer for review and approval:

A. Pump Capacity in Gallons Per Minute;

B. Total Dynamic Head (TDH) and Operating RPM;

1750 RPM

C. Motor Horsepower;

D. Motor RPM: 1750 RPM

E. Motor Voltage, Phase and Cycle; 230V, 3-Phase, 60 HZ

6.04. Pump Design

A. Pump Construction

Major pump components shall be of gray cast iron, ASTM A 48, Class 30, with smooth surfaces devoid of blow holes or other irregularities. All exposed nuts or bolts shall be AISI Type 304 stainless steel or brass construction. All metal surfaces coming into contact with the pumpage, other than stainless steel or brass, shall be protected by a factory applied spray coating of alkyd primer with a chlorinated rubber paint finish on the exterior of the pump.

Sealing design shall incorporate metal-to-metal contact between machined surfaces. Critical mating surfaces where watertight sealing is required shall be machined and fitted with Nitrile or Viton rubber O-rings. Fittings will be the result of controlled compression of rubber O-rings in two planes and O-ring contact of four sides without the requirement of a specific torque limit.

Rectangular cross sectioned gaskets requiring specific torque limits to achieve compression shall not be considered as adequate or equal. No secondary sealing compounds, elliptical O-rings, grease or other devices

B. Cooling System

shall be used.

Motors shall be sufficiently cooled by the surrounding environment or pumped media. A water cooling jacket is not required.

C. Cable Entry Seal

The cable entry seal design shall preclude specific torque requirements to insure a watertight and submersible seal. The cable entry shall consist of a single cylindrical elastomer grommet, flanked by washers, all having a close tolerance fit against the cable outside diameter and the entry inside diameter and compressed by the body containing a strain relief function, separate from the function of sealing the cable. The assembly shall provide ease of changing the cable when necessary using the same entry seal.

The pump motor shall be induction type with a squirrel cage rotor, shell type design, housed in an air or oil filled, watertight chamber, NEMA B type. The stator windings and stator leads shall be insulated with moisture resistant Class F insulation rated for 311 F (155 C). The stator shall be dipped and baked three times in Class F varnish and shall be heat-shrink fitted into the stator housing. The use of bolts, pins or other fastening devices requiring penetration of the stator housing is not acceptable. The motor shall be designed for continuous duty handling pumped media of 104 F (40 C) and capable of up to 15 evenly spaced starts per hour. The rotor bars and short circuit rings shall be made of cast aluminum. Thermal switches set to open at 260 F (125 C) shall be embedded in the stator lead coils to monitor the temperature of each phase winding. These thermal switches shall be used in conjunction with and supplemental to external motor overload protection and shall be connected to the control panel. The motor and pump shall be designed and assembled by the same manufacturer.

The combined service factor (combined effect of voltage, frequency and specific gravity) shall be a minimum of 1.15. The motor shall be designed for operation up to 104 F (40 C) ambient and with a temperature rise not to

The power cable shall be sized according to the NEC and ICEA standards and shall be of sufficient length to reach the junction box without the need of any splices. The outer jacket of the cable shall be chloroprene rubber. The motor and cable shall be capable of continuous submergence under water without loss of watertight integrity to a depth of 65 feet.

The motor horsepower shall be adequate so that the pump is non-overloading throughout the entire pump performance curve from shut-off through run-out.

E. Bearings

The pump shaft shall rotate on two bearings. Motor bearings shall be permanently grease lubricated. The upper bearing shall be a single deep groove ball bearing. The lower bearing shall be a two row angular contact bearing to compensate for axial thrust and radial forces. Single row lower bearings are not acceptable seal on the impeller hub will not be acceptable.

F. Mechanical Seal

Each pump shall be provided with a tandem mechanical shaft seal system consisting of two totally independent seal assemblies. The seals shall operate in an oil reservoir that hydrodynamically lubricates the lapped seal faces at a constant rate. The lower, primary seal unit, located between the pump and the oil chamber, shall contain one stationary and one positively driven rotating tungsten-carbide ring. The upper, secondary seal unit, located between the oil chamber and the motor housing, shall contain one stationary ungsten-carbide ring and one positively driven rotating carbon seal ring. Each seal interface shall be held in contact by its own spring system. The seals shall require neither maintenance nor adjustment nor depend on direction of rotation for sealing. The position of both mechanical seals shall depend on the shaft. Mounting of the lower mechanical

The following seal types shall not be considered acceptable nor equal to the dual independent seal specified: shaft seals without positively driven rotating members, or conventional double mechanical seals containing either a common single or double spring acting between the upper and lower seal faces. Cartridge type systems will not be acceptable. No system requiring a pressure differential to offset pressure and to effect sealing shall be used.

Each pump shall be provided with an oil chamber for the shaft sealing system. The oil chamber shall be designed to prevent overfilling and to provide oil expansion capacity. The drain and inspection plug, with positive anti-leak seal shall be easily accessible from the outside. The seal system shall not rely upon the pumped media for lubrication. The motor shall be able to operate dry without damage while pumping under load.

G. Pump Shaft

Pump and motor shaft shall be the same unit. The pump shaft is an extension of the motor shaft. Couplings shall not be acceptable. The pump shaft shall be AISI Type 420 stainless steel.

The impeller(s) shall be of gray cast iron, Class 30, dynamically balanced, double shrouded non-clogging design having a long through let without acute turns. The impeller(s) shall be capable of handling solids, fibrous materials, heavy sludge and other matter found in wastewater. Whenever possible, a full vaned, not vortex, impeller shall be used for maximum hydraulic efficiency; thus, reducing operating costs. Mass moment of inertia calculations shall be provided by the pump manufacturer upon request. Impeller(s) shall be retained with an Allen Head bolt and shall be capable of passing a minimum 3-inch diameter solid. All impellers shall be coated with alkyd resin primer.

I. Wear Rings

A wear ring system shall be used to provide efficient sealing between the volute and suction inlet of the impellers. The wear ring shall be stationary and made of brass, which is drive fitted to the volute inlet

J. Volute

Pump volute(s) shall be single-piece grey cast iron, Class 30, non-concentric design with smooth passages large enough to pass any solids that may enter the impeller. Minimum inlet and discharge size shall be as specified.

K. Rail/Removal System

The pump mounting base shall include adjustable guide rail supports and a discharge connection with a one hundred twenty-five (125) pound standard flange. The base and the discharge piping shall be permanently mounted in place. The base plates shall be anchored in place utilizing epoxy type anchors with stainless steel studs and nuts as manufactured by HILTI Fasteners, Inc. or equal.

A rail system shall be provided for easy removal of the pump and motor assembly for inspection and service. The system shall not require a man to enter the wet well to remove the pump and motor assembly. Two (2) rails of two (2) inch stainless steel pipe shall be provided for each pump. The guide rails shall be positioned and supported by the pump mounting base. The guide rails shall be aligned vertically and supported at the top by attachment to the access hatch frame. One (1) intermediate guide rail support is required for each fifteen (15) feet of guide rail length for pipe.

The pumps shall be equipped with sliding brackets or rail guides. To insure easy removal of the pumps, the rail guides attached to each pump shall not encircle the rails. A stainless steel lifting chain or manufacturer's pump removal system (similar to the Flygt Lift) of adequate length for the basin depth shall be provided for each pump. Each pump shall be equipped with a permanent, stationary lifting handle with a minimum clearance of 12" between the top of pump and bottom of handle.

The rails and the rail guides shall function to allow the complete weight of the pumping unit to be lifted on dead center without binding and stressing the pump housing. The rail system shall function to automatically align the pumping unit to the discharge connection by a simple downward movement of the pump. No twisting or angle approach will be considered acceptable. The actual sealing of the discharge interface may be of the hydraulically sealing diaphragm type assembly with removable Buna-N diaphragm as supplied by Hydromatic Pump or may be of the metal-to-metal contact as provided by Flygt Pump.

L. Pump Warranty

Pump warranty shall be provided by the pump manufacturer and shall warrant the units being supplied to the Owner against defects in workmanship and materials for a period of one (1) year under normal use, operation, and service. The warranty shall be in printed form and apply to all similar units. A copy of the warranty statement shall be submitted with the approval drawings.

6.05 Protection

All stators shall incorporate thermal switches in series to monitor the temperature of each phase winding. At 260 F (125 C) the thermal switches shall open, stop the motor and activate an alarm

A leakage sensor shall be provided to protect water in the stator chamber. The Float Leakage Sensor (FLS) shall be a small float switch to detect the presence of water in the stator chamber. When activated, the FLS shall stop the motor and send an alarm. USE OF VOLTAGE SENSITIVE SOLID STATE SENSORS AND TRIP TEMPERATURE ABOVE 260 F (125 C) SHALL NOT BE ALLOWED.

6.06 Wet Well and Valve Pit

A. General

The walls of the pump station and valve pit structures shall be constructed of reinforced concrete pipe which shall conform to the latest ASTM Specifications C-76, with a minimum compressive strength of concrete equal to 4000 psi. Reinforcement of the pipes shall be of the circular type. All of the pipe for the pump chambers and the access tubes shall be Class III and of the diameter shown on the Plans. Handling or lifting lugs and/or devices shall be provided in the pipe shells for ease of unloading and setting in place. All joints between pipes and between ends of pipes and concrete slabs shall be made watertight.

The pipes utilized for the pump station wet well or valve pit shall be jointed with a rubber O-ring type seal conforming to the ASTM Standard C-443 (latest revision). The joint shall be designed to provide a maximum infiltration/exfiltration limit of .158 gallons (200 gpd/in-mile). The interior and exterior joint spaces shall be grouted to a smooth surface using a sand-cement mixture mortar. The mortar- grout shall have one part cement to two parts sand mix ratio. The completed interior and exterior joints shall have a smooth troweled waterproof finish.

The top concrete slab of the pump station and valve pit shall have cast into it a socket for receiving the end of each concrete pipe. The joint shall be made watertight. An access ladder shall be provided with rungs spaced 12 inches on center from top to bottom of the station and shall be of welded steel construction, and hot-dipped galvanized after fabrication or aluminum.

Concrete for the foundation and roof slabs shall be made of Class A

The Contractor shall furnish and install for both the wet well and valve pit aluminum access doors complete with frames, hinged and hasp-equipped covers, upper guide holders, drain hole and cable holder. The frames shall be securely mounted above the pumps. The doors shall be torsion bar loaded for ease of lifting and shall have safety locking handles in the open position. The access doors shall be capable of withstanding a 300 lb. live load per square foot. The lift station wet wells are to be provided with two (2) separate access hatches or a two (2) door hatch. The valve pit access hatches are to be single door type.

Fall-Through Prevention System (Safety Grate): The wet well access openings shall be fitted with a permanently installed fall through prevention SAFETY GRATE for access to the opening below. The system shall be Hatch Safety Great as manufactured by USF Fabrication, Inc., or equal. The system shall consist of the following components:

 Hatch Safety Grate rotates 90 degrees. - Safety Grate designed for 300 p.s.f. loading. - Hold Open Rods

- Aluminum Grate has an OSHA safety orange finish - Hardware components are made of stainless steel to resist corrosion.

C. Pipe, Valves and Fittings

The suction and discharge pipe and fittings shall be ductile and cast iron Class150. Inside pipe and fittings shall be flanged. Bell end pipes or fittings with mechanical joints shall be provided at or near the outside face of the station well. Piping shall be supported independent of the sewage flanges. All inside plug valves shall be provided with handwheels. All check valves shall be rubber flapper type.

All metal piping other than cast or ductile iron and copper tubing shall be galvanized steel pipe.

A. Rubber Flapper Check Valve

Manufacturers - DeZurik/APCO - Rubber Flapper Swing Check Valve

 Val-Matic - Surgebuster Check Valve - GA Industries - Rubber Flapper Swing Check Valve - Or approved equal

Provide seating surface at a 45 degree angle such that the flapper travels a maximum of 35 degrees from full closed to full open position.

Body and Cover: Ductile Iron ASTM A536 Grade 65-42-12 Removable Body Seat: ASTM A276, Type 304 stainless steel Rubber Flapper: Buna N 70 Durometer ASTM 2000-BG encapsulating an ASTM A36 steel plate.

Disc arm and external levers shall be ductile iron. Provide valves with a full pipe size flow area. Provide valves 4-in and larger capable of passing a 3 inch sphere.

Provide a threaded connection with bronze plug on cover and on the bottom of the valve Working Pressure: 2-in thru 24-in: 250 psi Ends: Flanged ANSI B16.1, 150-lb

Provide a valve with cover designed for removal of the valve internals without removing the valve from the pipeline. A mechanical indicator to provide disc position

A screw-type backflow actuator to allow opening of the valve during no-flow Buna-N seals shall be used to seal the stainless steel stem in a Lead-Free bronze bushing. The backflow device shall be of the rising-stem type to indicate position. A stainless steel T-handle shall be provided for ease of

B. Eccentric Plug Valves

Manufacturers:

- DeZurik Or approved equal

Type: Non-Iubricated, eccentric.Body Working Pressure: Cast Iron, ASTM A126 Class B or Ductile Iron, ASTM A536, Grade 64-45- 12. Valves 4-in. through 12-in: 175 psi. Ends: Flanged: ANSI B16.1 125-lb for cast iron valves. Valve Ports: Provide rectangular or circular except for pigging services. Valve Seats:Coat plug with seat material or hold by means of Type 316 stainless steel seat ring and attach to the valve with self-locking Type 316 stainless steel screws. Seat Material: Neoprene or Buna-N synthetic rubber.

Provide valves with coated plugs with mating seats of 90 percent, minimum, pure nickel welded into the body of valves. Provide valves with seats clamped to valve with mating seat of 90 percent, minimum, pure nickel welded to the valve body. Manual Operators:

Gear shall be operated with handwheels. Levers are not acceptable. Operators shall be mounted as shown on the plans Provide gear operators rated for bi-directional shutoff at the valve working pressure rating as specified.

6.07 Disconnect Switch

A. A single main fusible or breaker disconnect switch of adequate size to provide power for the "control center" and its related components shall be provided by the Contractor.

B. The disconnect switch shall be housed in a NEMA 4X stainless steel enclosure with an external operation handle capable of being locked in the ON position.

6.08 Control Center

A. The control center shall be built in a free standing NEMA 4X stainless steel enclosure and shall be suitable for the specified horsepower and voltage for the pumping equipment. The outer door of the panel shall be hinged dead front with provisions for locking with a padlock.

Inside shall be a separate hinged panel to protect all electrical components

H-O-A switches, run lights, circuit breakers, etc. shall be mounted such that only the faces protrude through the inside swing panel and no wiring is connected to the back side of the inside swing panel.

All of the pilot-devices, operators, interfaces and indicators shall be installed on the face of the door as listed

- A door-interlocked main power disconnect-switch - An integral color touch-screen operator interface panel.
- A 3-position control-mode selector switch. - A Hand-Off-Automatic selector switch for each pump. - A Pump-Running indicator-light for each pump.
- A Seal-Failure indicator-light for each pump.
- A Motor-Over-Temperature indicator-light for each pump.
- An Elapsed-Time-Meter for each pump.

A terminal strip shall be provided for connecting pump and control wires. The panel shall include a GFI convenience outlet. The PLC shall include a DC power supply with battery back-up. The enclosure shall be protected from condensation through the use of a pre-wired thermostatically-controlled anti-condensation heater. The control components shall be mounted on a 12-gauge painted steel subpanel. Individual electrical components shall be mounted in accordance with the manufacturer's recommendations. Wiring within the enclosure shall be run through plastic wiring duct or tied and bundled to prevent strain and abrasion. All customer connections shall be wired to individually numbered terminals and wires shall be numbered at both ends for ease of trouble shooting. The control panel manufacturer shall be listed with underwriters laboratories under UL508 (type I) listing category for the manufacture of control equipment. The control panel shall contain UL listed components wherever practical. The entire control panel assembly shall be approved by UL and labeled to that effect.

The control center shall include a manual transfer switch and generator receptacle, a dual 120-volt AC GFI convenience outlet. A meter socket shall be supplied and mounted by the contractor.

B. A circuit breaker and magnetic starter with three (3) leg overload protection and manual reset shall be provided for each pump. Starters shall have auxiliary contacts to operate both pumps on override condition. A separate circuit breaker shall be supplied for power to the control circuit. The control center shall include an extra circuit breaker of adequate size to provide 115 volt, single (1) phase power for a future remote monitor panel. The control center shall include a control voltage transformer to reduce supply voltage to 115 volt, single (1) phase to be used for all control functions except the level circuit and associated relays which shall be provided with 24 volt control voltage. An alternating relay shall be provided to alternate pumps on each successive cycle of operation. A green run light and H-O-A switch shall e provided for each pump. A terminal strip shall be provided to make field connections of pump power leads, float switches, seal sensor leads, heat sensor leads, and remote monitor panel interconnections.

C. A time delay relay shall be provided to delay start of second pump should power outage occur.

D. The control system shall incorporate the level monitoring system.

E. The control center shall incorporate connections for heat sensors which are installed in the pumps. The connection shall disconnect the starter upon high temperature signal and will automatically reconnect when condition has

F. The control center shall incorporate connections for seal failure sensors which are installed in the pumps. The panel will have a seal failure alarm light for each pump. This alarm indicates failure of the lower mechanical seal in the pump. This will be an alarm light only and will not shut down the pump.

G. The control center shall include an hour meter for each pump to register the elapsed operating time of each pump.

H. The control center shall have a high and low water alarm built into the main enclosure. The alarms shall consist of a flashing alarm light with red Lexan plastic cover or red glass globe with metal guard mounted on top of the enclosure such that it is visible from all directions. An alarm horn shall be mounted on the side of the enclosure. A push to test horn and light button as well as a push to silence horn button shall be provided and mounted on the side of the enclosure.

I. The control center shall include a condensate heater to protect against condensation inside the enclosure. The heater shall be placed so as not to damage any other component or wiring in the control center.

J. The control center shall include lightning protection and a phase monitor relay to shut down the control circuit and protect the equipment due to loss of phase or phase reversal. The three phase sequence voltage relay shall be of the 8-pin connector type.

K. The control center shall incorporate an alternator selector switch to allow selection of automatic alternation or manual selection of the lead pump.

L. The control center shall include a GFI convenience outlet with 20 amp breaker and suitable transformer or power supply to provide 110 volt single (1) phase power to the convenience outlet.

M. Section not used

N. Section not used.

O. A minimum four (4) inch PVC Schedule 40 wall conduit shall be provided from the wet well basin to the control center which will allow the pump power cables, sensor cables and level monitoring cables to be pulled through without difficulty and allow the use of one (1) piece cables from the pumps and level system to the control center. The conduit shall be sealed at the control center to avoid entrance of sewer gases into the control panel.

P. The control center and associated components shall be mounted on a concrete pad. The control center shall be located so as to provide safe access to the panel while wet well hatch doors are opened, and shall be positioned so as not to be between the access drive and the wet well.

Q. All components of the control center shall be available from local sources. In particular, items such as circuit breakers, overload protection, relays, etc. shall be available and in stock by local sources.

R. In order to maintain unit responsibility and warranty on the pumping equipment and control center, the control center must be furnished by the pump manufacturer as suitable for operation with the pumping equipment.

6.09 Level Monitoring System

A. Components

The wet well level shall be monitored using an Integrated Level Management Pump Control System. The microprocessor based electronic control system shall be installed within the control panel. The level-management system shall be furnished as a complete factory assembled unit requiring only field installation and required electrical and sensor connections. The level-management system shall sequence the pumps automatically, in response to changing wet well levels. The control system shall be a complete automatic control package consisting of pump sequencing logic operator interface terminal, and discreet operator controls. The system shall operate completely unattended and shall provide annunciation of abnormal conditions. The entire assembly shall be completely pre-wired and function-tested at the factory prior to shipment.

The management system shall receive an analog signal proportional to the level in the wet-well and sequence the pumps as required in order to maintain the desired level set-point. The level management system shall provide totally automated sequencing of the pumps and shall be easily configured for pump-down applications. The analog input shall be provided for wet well level reference, via(1) submersible level-transducer, provided with cords which shall be 50-foot long, or longer if required by jobsite conditions. All cords must extend the entire distance from the transducers to the control panel terminals, without junction boxes or splices. The input signals shall be 0-5 vdc scalable or 4-20 mA. The transducers shall serve as the primary level-sensor system.

The transducer housing shall be 316 stainless-steel fitted with a stainless-steel cable support bracket. Liquid level shall be sensed by the deflection of a stainless-steel diaphragm having a displacement of less than 5 cu.mm from 0 to full scale. The atmospheric pressure side of the diaphragm shall be bonded to a silicon strain sensor coupled to an integral bridge circuit. Atmospheric venting shall be through the signal cable, directly to atmosphere. Transmitters requiring separate, sealed, expansion breathing systems shall not be accepted. Electrical connection shall be 2 wire, 4-20 mA, and shall be reverse polarity and surge protected. Accuracy shall be 0.6 percent of full scale. Full scale range shall be 0 to 14 feet (or as shown on the plans). Temperature compensated range shall be -20°F to 122°F. maximum operating temperature shall be -40°F to 176°F. The level-transducers shall be field-adjustable from above the wet-well, via the use of a chain & anchor system, consisting of a stainless-steel chain, stabilized by a cast-iron anchor, as shown on the drawings.

The level management system shall alternate the lead pump after each cycle. Pumps which are faulted or out of service shall automatically be omitted from the alternation scheme. The operator shall also be capable of manually selecting the lead pump.

The wet well level shall be displayed on the controller's color touch-screen operator interface terminal. Each pump and alarm set point shall also be displayed accordingly. Pump-on and pump-off set points shall be independently adjustable providing true differential level control. All set points shall be adjusted via the LMS-II operator-interface color touch-screen.

The programmable logic controller (PLC) shall include integral processor, power supply, input and output circuits and communications ports. This specification requires the use of a non-proprietary, commercially available PLC and touch screen operator interface device. Universal, proprietary controllers and/or displays with separate function buttons, indicators and complex multi-level function trees will not be considered equal or acceptable. A built-in real-time clock shall provide reference for time-based control applications. The unit shall include a memory module for backup and portability of user program. Processor on board memory shall be non-volatile. The unit shall provide a minimum of 4K user program space, 4K user data space, 128K data logging and up to 64K for recipe. The processor shall function as specified over an ambient temperature range of -4°F to +140°F with a relative humidity up to 95%, non-condensing. The PLC shall be UL listed for industrial control equipment. To facilitate inter-connectivity the PLC shall include two communications channels, an isolated RS-232/485 communication port and an Ethernet/IP port.

The operator interface panel shall show system status and shall provide the operator with convenient soft screen touch keys for the entry of pass codes, set points, and commands. Screen menu keys shall produce instructional screens that will guide the operator in set point entry and alarm diagnosis. Multi-level password protection shall be available to prevent unauthorized set point changes. All information displayed on the screen shall be in plain English and simple graphic representations of the system components. An alarm log shall be provided at the operator interface. This screen shall allow the user to view a summary of a minimum of 20 alarm occurrences. The screen shall show the time and date at the onset of the alarm.

The operator interface shall consist of an 800 x 600-pixel, color transmissive, TFT active-matrix LCD with backlight. The viewing area shall be a minimum of 5.55" x 4.16". The touch panel shall be sealed from dirt & moisture and shall not exhibit parallax within the viewing angle.

Statistical Display Screen: Pump Status (Off/Running/Alarm) (Each Pump) Pump Running Hours (Each Pump) - Wet-Well Level

Set-Point Screens: - Level Set-Points

Alarm Conditions

- Alarm Set-Points

- Transducer Failure

A back-up high level mechanical type float switch shall be provided for high level alarm.

LEVEL MONITORING SYSTEMS

1. Flexible bulb electrode type level controller by Warrick, or equal.

2. Electrode probe and controller by Multi Trode Model MTDPC or equal.

3. Transducer by KPSI and controler by Metropolitan Industries Model LMS II

Level transducer shall be filed adjustable from above the wet well via the use of a chain & anchor.

B. System Operation

On sump level rise, the lower level 1 shall first be energized, then the upper level 2 shall next energize and start the lead pump. With the lead pump operating, sump level shall lower to lowest switch and turn off the pump. The alternating relay in the control center shall index on stopping of the pump so that the lag pump will start on the next operation. If sump level continues to rise when lead pump is operating, the level 3 shall energize and start the lag

Both lead and lag pumps shall operate together until low level turns off both pumps. If level continues to rise when both pumps are operating, alarm level 4 shall energize and signal the alarm. If one pump should fail for any reason, the second pump shall operate on the override switch. All levels shall be adjustable for level setting from the control panel.

BACK-UP FLOAT OPERATING SYSTEM Provide "Float/Off/Auto" selector switch.

On "Auto" position, the pump will be operated using the level transducer as the primary control. If the HWL Alarm float activates, the backup float mode should latch in and control the pump operation until the "Reset" push button is pressed

In "Float" position, operate the pumps based on float switches, bypassing the level transducer and PLC control.

In "Off" position, the backup float control is deactivated.

Both the transducer and mechanical floats shall incorporate intrinsically safe barriers to maintain a class 1 division 1 safe operation

6.10 Remote Monitoring Panel

This section is not used.

6.11 Operation and Maintenance Manuals

A. Two (2) operation and maintenance manuals shall be submitted to the

B. Manuals shall include, at a minimum:

1. Operation Instructions Maintenance Instructions

3. Recommended Spare Parts List 4. Lubrication Schedules 5. Structural Diagrams

. As-Built Wiring Diagrams

7. Bill of Materials 6.12 Spare Parts

Section not used.

6.13 Design Requirements

A. Sizing of Wet Basin

shall also meet the following criteria: 2. OFF level to be set at the pump manufacturer's recommended level but no less than 1'0" from the bottom of the wet well. a. The distance between the OFF level and the lead pump ON level shall be

1. The wet well storage below the lowest inlet shall be a minimum of 5'0" and

15 x Rated Pump GPM/4

set to provide storage capacity equal to:

(i.e. 15 minute cycle minimum) b. The lag pump ON level shall be set a minimum of 6" above the lead pump

c. The high water alarm float shall be set a minimum of 6" above the lag

ON level and a minimum of 6" below the lowest inlet invert.

pump ON level and a minimum of 6" below the lowest inlet invert. d. All levels shall be set below the lowest inlet invert.

EQUIPMENT RESPONSIBILITY

All controls, pumps, and motors shall be furnished by one equipment supplier. The equipment supplier shall have responsibility for the complete and proper operation of the new and existing pumping equipment, control equipment, and program as specified and furnished. Start-up services shall be included and shall include operating instruction to the operators.

SHOP DRAWINGS

equipment provided.

WARRANTY

instructions

The contractor shall submit a minimum of one (1) electronic copy of all drawings to the Engineer for approval. Of these, one copy will be returned to the contractor with appropriate action taken.

Each set of shop drawings shall include, but not necessarily be limited to: - Drawings showing dimensions of all equipment. Control details and electrical schematic diagrams - Performance data including, pump curves, and motor data.

- All other information necessary to enable the Engineer to determine

whether the proposed equipment meets the requirements. INSTALLATION AND OPERATING INSTRUCTIONS

replacement part without cost to the owner.

One (1) copy of a manual, containing installation instructions, operating instructions, wiring diagrams, parts list, and, where applicable, test data and curves shall be provided. The contractor shall provide the services of factory-trained representative for a maximum period of one (1) day to start up the station and to instruct the owner's operating personnel in the operation and maintenance of the

Warranties and guarantees by the suppliers of various components in lieu of a single source responsibility by the contractor shall not be accepted. The contractor shall be solely responsible for the warranty. In the event a component failure to perform as specified or is proven defective in service during the warranty period, excluding items of supply normally expended during operation, the manufacturer shall provide a

This warranty shall be valid only if the product is installed, serviced, and

operated under normal conditions, in accordance with the manufacturer

The manufacturer shall warrant his product to be free from defects in

workmanship for a period of one (1) year from date of completion.

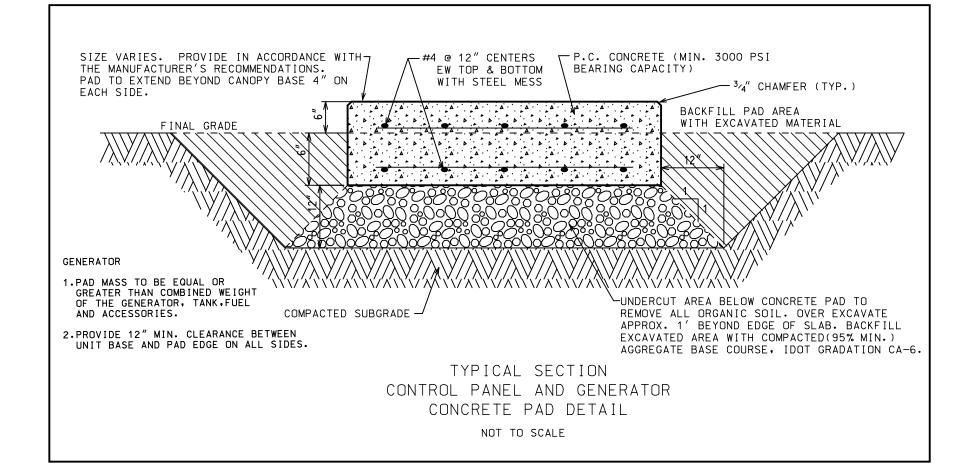
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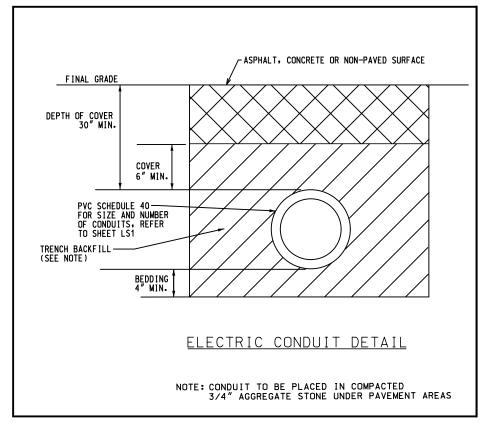
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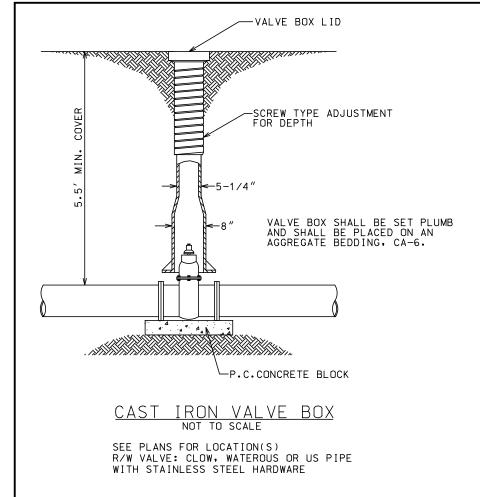
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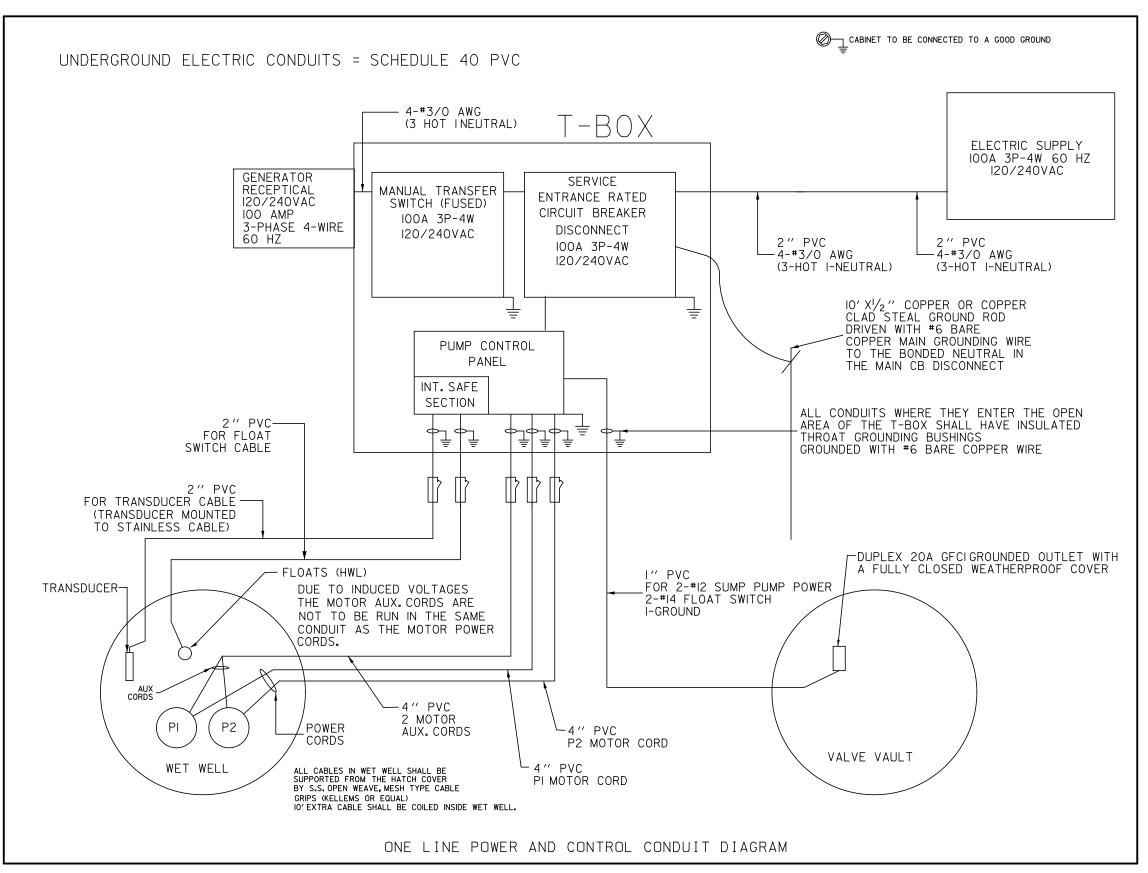
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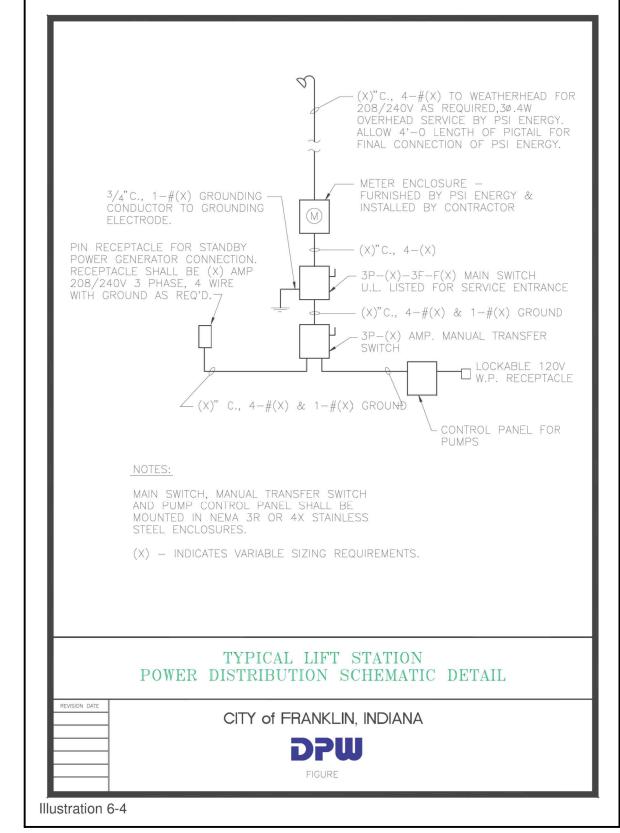
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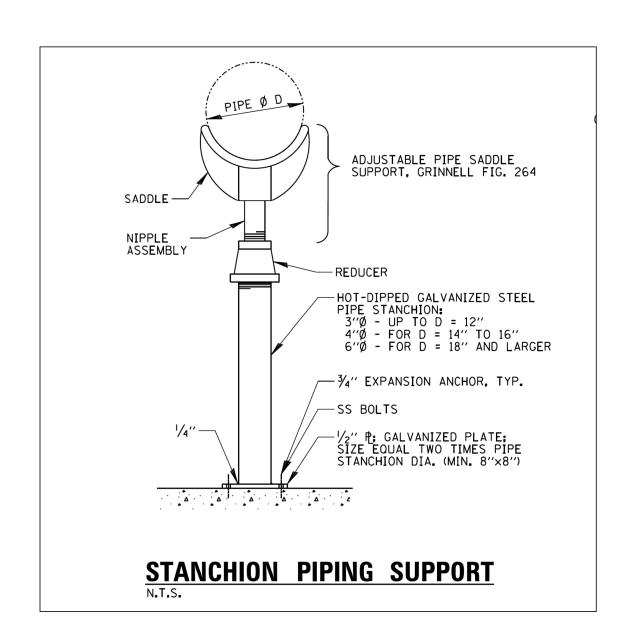


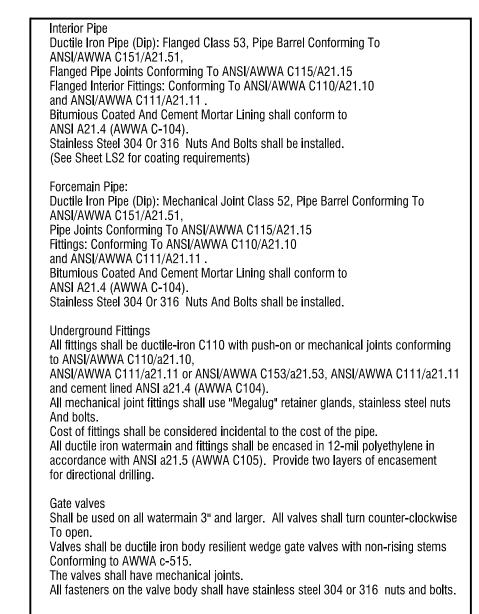


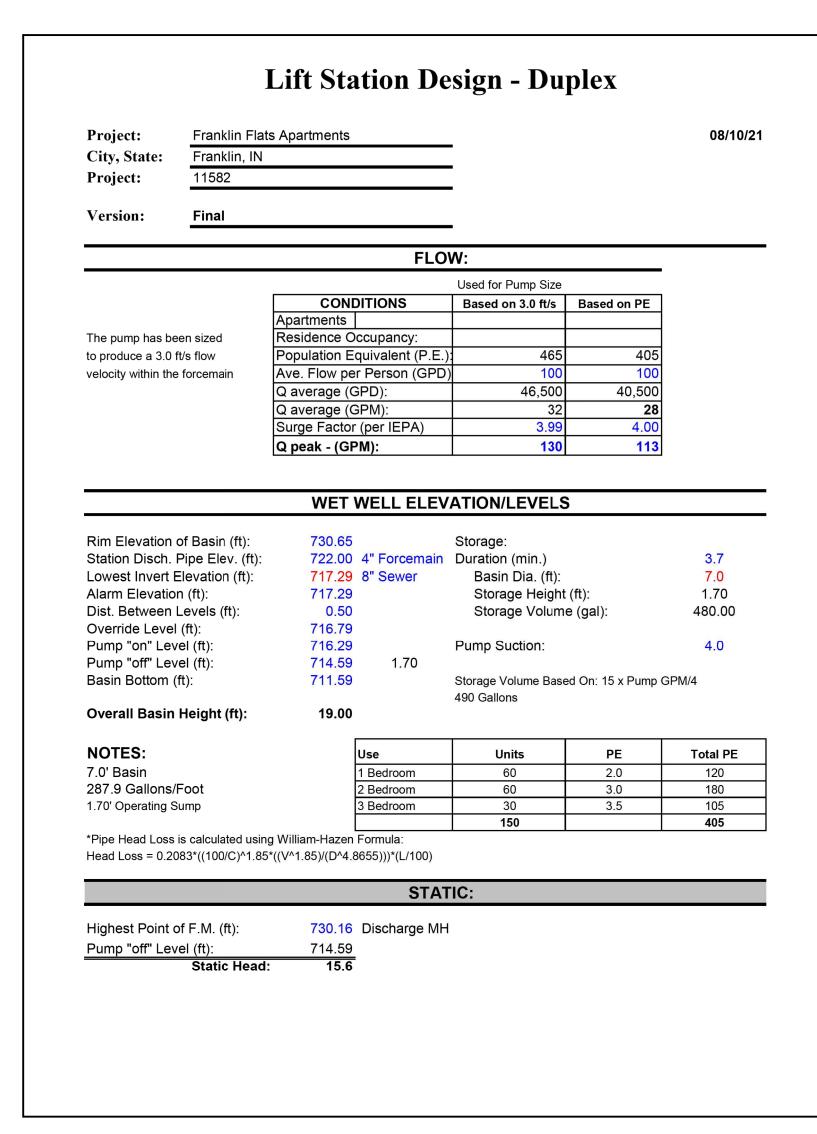


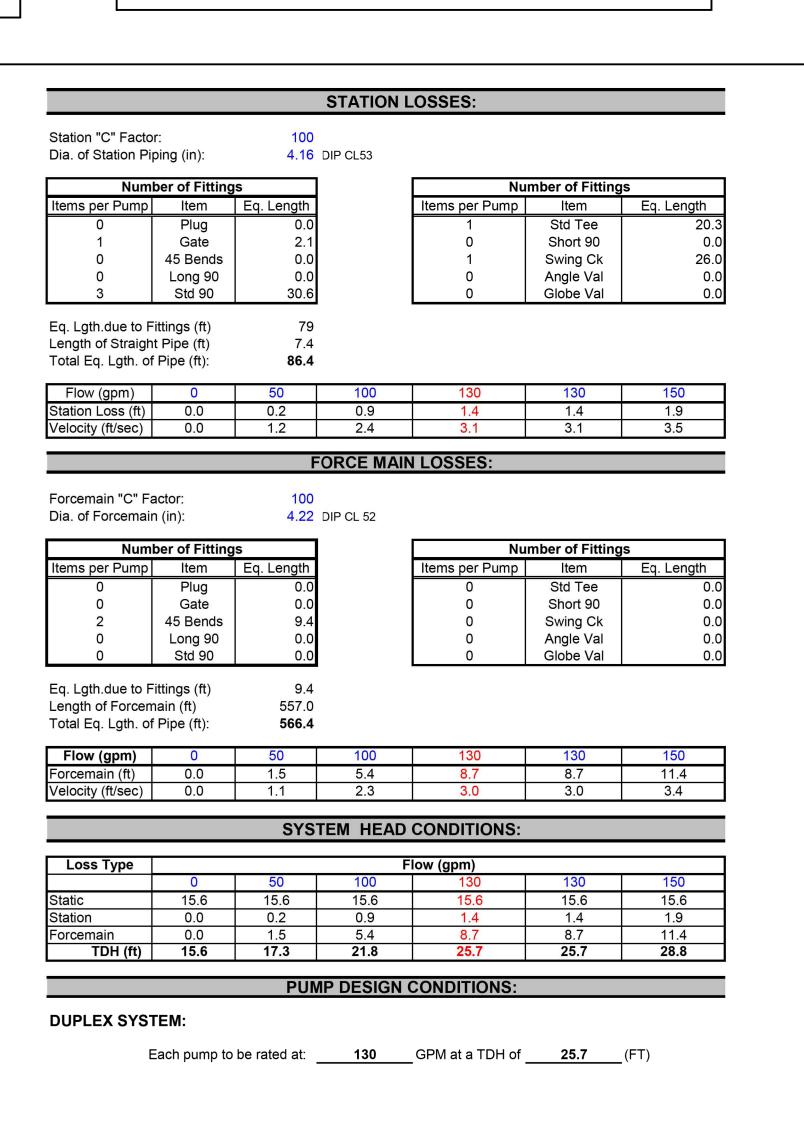


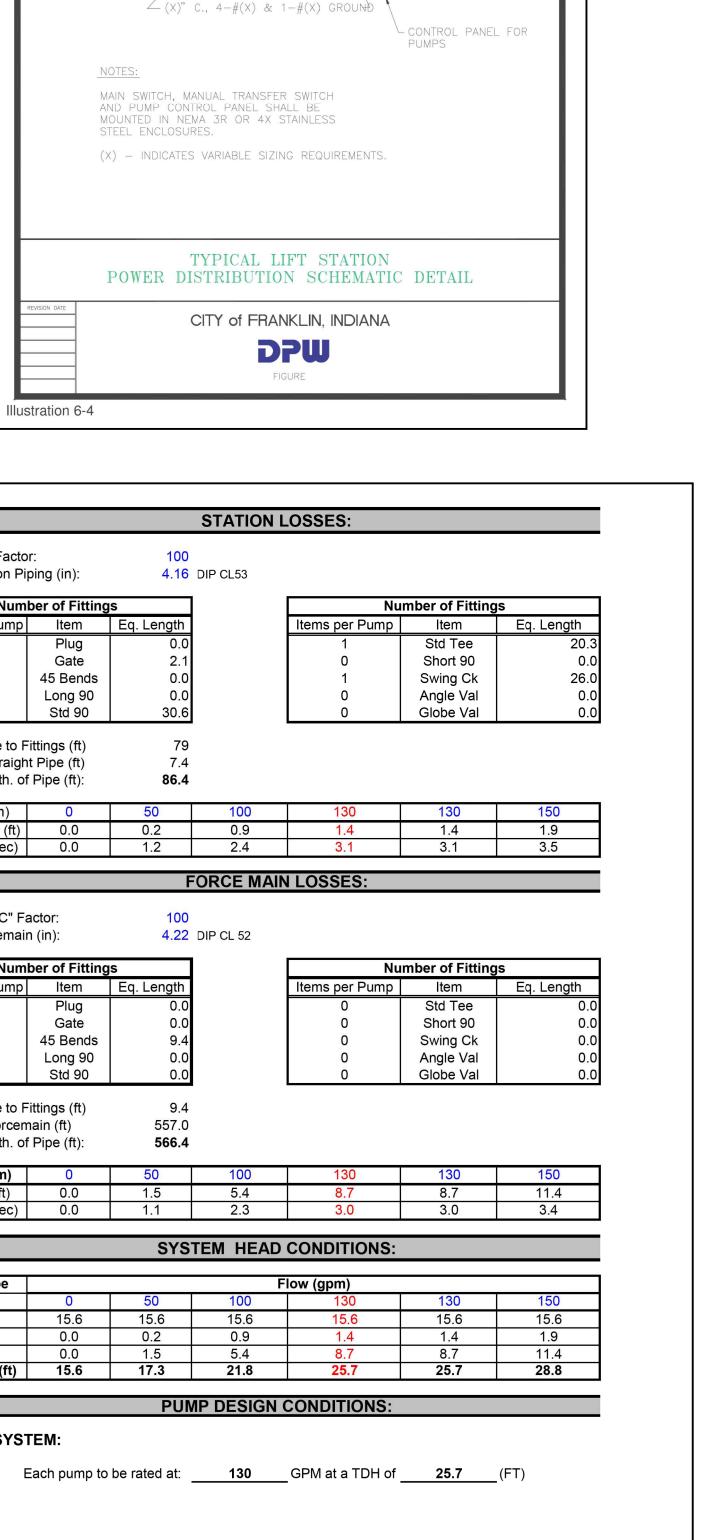












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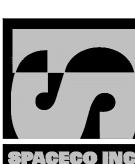
EARTHWORK NOTES	PAVING NOTES
1. GENERAL	1. GENERAL
A. IT IS THE CONTRACTOR'S RESPONSIBILITY TO UNDERSTAND THE SOIL AND GROUNDWATER CONDITIONS AT THE SITE. THE CONTRACTOR SHALL OBTAIN AND READ THE GEOTECHNICAL REPORTS AVAILABLE FROM THE OWNER.	A. PAVING WORK INCLUDES FINAL SUBGRADE SHAPING, PREPARATION AND COMPACTION; PLACEMENT OF SUB-BASE OR BASE COURSE MATERIALS; BITUMINOUS BINDER AND/OR SURFACE COURSES; FORMING, FINISHING AND CURING CONCRETE PAVEMENT, CURBS AND WALKS; AND FINAL CLEAN-UP AND ALL RELATED WORK.
B. ANY QUANTITIES IN THE BID PROPOSAL ARE INTENDED AS A GUIDE FOR THE CONTRACTOR'S USE IN DETERMINING THE SCOPE OF THE COMPLETED PROJECT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ALL MATERIAL QUANTITIES AND APPRAISE HIMSELF OF ALL SITE CONDITIONS. THE CONTRACT PRICE SUBMITTED BY THE CONTRACTOR SHALL BE CONSIDERED AS LUMP SUM FOR THE COMPLETE PROJECT. NO CLAIMS FOR EXTRA WORK WILL BE RECOGNIZED UNLESS ORDERED IN WRITING BY THE OWNER.	B. COMPACTION REQUIREMENTS: [REFERENCE ASTM D-1557 (MODIFIED PROCTOR)] SUB-GRADE = 93%; SUB-BASE = 93%; AGGREGATE BASE COURSE = 95%; BITUMINOUS COURSES = REFER TO INDOT SPECIFICATION 402.15. THE SOILS ENGINEER IS RESPONSIBLE FOR ENSURING THAT MATERIALS ARE PROPERLY PLACED AND COMPACTED.
C. THE CONTRACTOR WILL NOTE THAT THE ELEVATIONS SHOWN ON THE CONSTRUCTION PLANS ARE FINISHED GRADE ELEVATIONS AND THAT PAVEMENT THICKNESS, TOPSOIL, ETC. MUST BE SUBTRACTED TO DETERMINE SUBGRADE ELEVATIONS.	C. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO PROVIDE PROPER BARRICADING, WARNING DEVICES AND THE SAFE MANAGEMENT OF TRAFFIC WITHIN THE AREA OF CONSTRUCTION. ALL SUCH DEVICES AND THEIR INSTALLATION SHALL CONFORM TO THE ILLINOIS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION AND IN ACCORDANCE WITH THE MUNICIPAL CODE.
D. THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE DURING CONSTRUCTION, AND PREVENT STORMWATER FROM RUNNING INTO OR STANDING IN EXCAVATED AREAS. THE FAILURE TO PROVIDE PROPER DRAINAGE WILL NEGATE ANY POSSIBLE ADDED COMPENSATION REQUESTED DUE TO DELAYS OR UNSUITABLE MATERIALS CREATED AS A RESULT THEREOF. FINAL GRADES SHALL BE PROTECTED AGAINST DAMAGE FROM EROSION, SEDIMENTATION AND TRAFFIC.	SUB-GRADE PREPARATION A. EARTHWORK FOR PROPOSED PAVEMENT SUBGRADE SHALL BE FINISHED TO WITHIN 0.1 FOOT, PLUS OR MINUS, OF
E. PLANS FOR THE SITE DEWATERING, IF EMPLOYED, SHALL BE SUBMITTED TO AND APPROVED BY THE OWNER PRIOR TO IMPLEMENTATION. NO ADDITIONAL COMPENSATION SHALL BE MADE FOR DEWATERING DURING CONSTRUCTION.	PLAN ELEVATION. THE CONTRACTOR SHALL SATISFY HIMSELF THAT THE SUBGRADE HAS BEEN PROPERLY PREPARED AND THAT THE FINISH TOP SUBGRADE ELEVATION HAS BEEN GRADED WITHIN TOLERANCES ALLOWED IN THESE SPECIFICATIONS. UNLESS THE CONTRACTOR ADVISES THE OWNER AND ENGINEER IN WRITING PRIOR TO FINE GRADING FOR BASE COURSE CONSTRUCTION. IT IS UNDERSTOOD THAT HE HAS APPROVED AND ACCEPTS THE
F. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTATION OF THE "SOIL EROSION AND SEDIMENTATION CONTROL MEASURES". THE INITIAL ESTABLISHMENT OF EROSION CONTROL PROCEDURES AND THE PLACEMENT OF SILT AND FILTER FENCING, ETC. TO PROTECT ADJACENT PROPERTY, WETLANDS, ETC. SHALL OCCUR BEFORE GRADING BEGINS. A MUNICIPAL EROSION CONTROL INSPECTION MAY BE REQUIRED BEFORE ANY EARTHWORK IS PERFORMED.	RESPONSIBILITY FOR THE SUBGRADE. B. PRIOR TO THE PLACEMENT OF THE BASE COURSE, THE SUBGRADE MUST BE PROOF ROLLED AND INSPECTED FOR UNSUITABLE MATERIALS AND/OR EXCESSIVE MOVEMENT. THE SOILS ENGINEER SHALL CONDUCT AND THE MUNICIPALITY SHALL
G. PRIOR TO COMMENCEMENT OF GRADING ACTIVITIES, THE CONTRACTOR SHALL ERECT A "SNOW FENCE" AROUND ANY TREE DESIGNATED TO BE PRESERVED. SAID FENCE SHALL BE PLACED IN A CIRCLE CENTERED AROUND THE TREE, THE DIAMETER OF WHICH SHALL BE SUCH THAT THE ENTIRE DRIP ZONE (EXTENT OF FURTHEST EXTENDING BRANCHES) SHALL BE WITHIN THE FENCE LIMITS. THE EXISTING GRADE WITHIN THE FENCED AREA SHALL NOT BE DISTURBED.	WITNESS ALL PROOF ROLLS. IF UNSUITABLE SUBGRADE IS ENCOUNTERED, IT SHALL BE CORRECTED IN A MANNER APPROVED BY THE OWNER OR HIS REPRESENTATIVE. THIS MAY INCLUDE ONE OR MORE OF THE FOLLOWING METHODS: 1) SCARIFY DISC AND AERATE. 2) REMOVE AND REPLACE WITH STRUCTURAL CLAY FILL. 3) REMOVE AND REPLACE WITH GRANULAR MATERIAL. 4) USE OF GEOTEXTILE FABRIC.
H. EXCESS MATERIALS, IF NOT UTILIZED AS FILL, SHALL BE COMPLETELY REMOVED FROM THE CONSTRUCTION SITE AND DISPOSED OF OFF-SITE BY THE CONTRACTOR.	MAXIMUM DEFLECTION ALLOWED IN ISOLATED AREAS MAY BE 1/4" TO 1/2" IF NO DEFLECTION OCCURS OVER THE MAJORITY OF THE AREA.
I. ALL EARTHWORK SHALL BE DONE UNDER THE SUPERVISION OF AN INDIANA LICENSED ENGINEER WHO SPECIALIZES IN THE GEOTECHNICAL FIELD (SOILS ENGINEER). THIS ENGINEER WILL BE RESPONSIBLE FOR ENSURING THAT ALL UNSUITABLE MATERIALS ARE REMOVED, ALL STRUCTURAL FILL MATERIALS ARE PROPERLY PLACED AND COMPACTED, ALL PAVEMENT SUBGRADES ARE PROPERLY PREPARED, PROOF ROLLING SUBGRADES AND BASE COURSES, AND ENSURING THAT ALL WATER RETAINING EMBANKMENTS ARE PROPERLY CONSTRUCTED. THE DEVELOPER PAYS FOR ALL GEOTECHNICAL SERVICES.	C. PRIOR TO THE CONSTRUCTION OF THE CURB AND GUTTER AND THE PLACEMENT OF THE BASE MATERIAL, THE PAVEMENT AREA SHALL BE FINE GRADED TO WITHIN 0.04 FEET (1/2") OF FINAL SUBGRADE ELEVATION, TO A POINT TWO (2) FEET BEYOND THE BACK OF CURB, SO AS TO INSURE THE PROPER THICKNESS OF PAVEMENT COURSES. NO CLAIMS FOR EXCESS QUANTITY OF BASE MATERIALS DUE TO IMPROPER SUBGRADE PREPARATION WILL BE HONORED.
2. TOPSOIL EXCAVATION INCLUDES:	D. PRIOR TO PLACEMENT OF THE BASE COURSE, ALL SUBGRADES MUST BE APPROVED BY THE MUNICIPAL ENGINEER, SOILS ENGINEER AND/OR OWNER.
A. EXCAVATION OF TOPSOIL AND OTHER STRUCTURALLY UNSUITABLE MATERIALS WITHIN THOSE AREAS THAT WILL REQUIRE EARTH EXCAVATION OR COMPACTED EARTH FILL MATERIAL. EXISTING VEGETATION SHALL BE	3. CONCRETE WORK
REMOVED PRIOR TO STRIPPING TOPSOIL OR FILLING AREAS. B. PLACEMENT OF THE EXCAVATED MATERIAL IN OWNER DESIGNATED AREAS FOR FUTURE USE WITHIN AREAS TO BE LANDSCAPED, AND THOSE AREAS NOT REQUIRING STRUCTURAL FILL MATERIAL. PROVIDE NECESSARY EROSION CONTROL MEASURES FOR STOCKPILE.	A. ALL EXTERIOR CONCRETE SHALL BE PORTLAND CEMENT CONCRETE CLASS A PER INDOT SPECIFICATION 702. WITH AIR ENTRAINMENT OF NOT LESS THAN FIVE (5%) OR MORE THAN EIGHT (8%) PERCENT. CONCRETE SHALL BE A MINIMUM OF SIX (6) BAG MIX AND SHALL DEVELOP A MINIMUM OF 4,000 PSI COMPRESSIVE STRENGTH AT TWENTY EIGHT (28) DAYS. ALL CONCRETE SHALL BE BROOM FINISHED PERPENDICULAR TO THE DIRECTION OF TRAVEL. THE ADDITION OF CALCIUM CHLORIDE AND THE SUBSTITUTION OF FLY ASH FOR PORTLAND CEMENT. IS PROHIBITED. 1.50 lbs OF COLLATED.
C. TOPSOIL STOCKPILED FOR RESPREAD SHALL BE FREE OF CLAY AND SHALL NOT CONTAIN ANY OF THE TRANSITIONAL MATERIAL BETWEEN THE TOPSOIL AND CLAY. THE TRANSITIONAL MATERIAL SHALL BE USED IN NON-STRUCTURAL FILL	FILLIBRATED, POLYPROPYLENE OLEFIN FIBERS 0.50 TO 0.75 INCHES IN LENGTH SHALL BE ADDED TO EACH CUBIC YARD OF CONCRETE USED FOR SIDEWALKS. THE FIBERS SHALL BE AS MANUFACTURED UNDER THE NAME "FIBERMESH" OR EQUAL.
AREAS OR DISPOSED OF OFF-SITE. D. TOPSOIL RESPREAD SHALL INCLUDE HAULING AND SPEADING 6" OF TOPSOIL OVER AREAS TO BE LANDSCAPED WHERE SHOWN ON THE PLANS OR DIRECTED BY THE OWNER.	B. CONCRETE CURB AND/OR COMBINATION CURB AND GUTTER SHALL BE OF THE TYPE SHOWN ON THE PLANS. THE CONTRACTOR IS CAUTIONED TO REFER TO THE CONSTRUCTION STANDARDS AND THE PAVEMENT CROSS-SECTION TO DETERMINE THE GUTTER FLAG THICKNESS AND THE AGGREGATE BASE COURSE THICKNESS BENEATH THE CURB AND GUTTER. PREMOLDED FIBER EXPANSION JOINTS. WITH TWO 3/4" X 18" EPOXY COATED STEEL DOWEL BARS. SHALL
E. MODERATE COMPACTION IS REQUIRED IN NON-STRUCTURAL FILL AREAS. 3. EARTH EXCAVATION INCLUDES:	BE INSTALLED AT SIXTY (60) FOOT INTERVALS AND AT ALL PC'S, PT'S AND CURB RETURNS. ALTERNATE ENDS OF THE DOWEL BARS SHALL BE GREASED AND FITTED WITH METAL EXPANSION TUBES. SAWED OR FORMED CONTRACTION JOINTS SHALL BE PROVIDED AT NO GREATER THAN FIFTEEN (15) FOOT INTERVALS BETWEEN EXPANSION JOINTS. NO HONEY-COMBING OF THE CURB AND GUTTER WILL BE ACCEPTED.
A. EXCAVATION OF CLAY AND OTHER MATERIALS WHICH ARE SUITABLE FOR USE AS STRUCTURAL FILL. THE EXCAVATION	C. CURBS SHALL BE DEPRESSED AT LOCATIONS WHERE PUBLIC WALKS/PEDESTRIAN PATHS INTERSECT CURB LINES, AND OTHER LOCATIONS AS DIRECTED, FOR THE PURPOSE OF PROVIDING ACCESSIBILITY. (SEE CONSTRUCTION STANDARDS FOR DETAIL). BARRIER CURB SHALL ALSO BE DEPRESSED AT DRIVEWAY LOCATIONS.
SHALL BE TO WITHIN A TOLERANCE OF 0.1 FEET OF THE PLAN SUBGRADE ELEVATIONS WHILE MAINTAINING PROPER DRAINAGE. THE TOLERANCE WITHIN PAVEMENT AREAS SHALL BE SUCH THAT THE EARTH MATERIALS SHALL "BALANCE" DURING THE FINE GRADING OPERATION.	D. THE CURBS SHALL BE BACKFILLED AFTER THEIR CONSTRUCTION AND PRIOR TO THE PLACEMENT OF THE BASE COURSE. THE CONCRETE MUST CURE FOR AT LEAST SEVEN DAYS BEFORE THE CURBS ARE BACKFILLED.
B. PLACEMENT OF THE CLAY AND OTHER SUITABLE MATERIALS SHALL BE WITHIN THOSE AREAS REQUIRING STRUCTURAL FILL IN ORDER TO ACHIEVE THE PLAN SUBGRADE ELEVATIONS TO WITHIN A TOLERANCE OF 0.1 FEET. THE FILL MATERIAL SHALL BE PLACED IN LOOSE LIFTS THAT SHALL NOT EXCEED EIGHT (8) INCHES IN THICKNESS, AND THE WATER CONTENT SHALL BE ADJUSTED IN ORDER TO ACHIEVE REQUIRED COMPACTION.	 E. CONCRETE SIDEWALK SHALL BE IN ACCORDANCE WITH THE ABOVE AND THE PLANS. PROVIDE SCORED JOINTS AT 5 FOOT INTERVALS AND 1/2 " PREMOLDED FIBER EXPANSION JOINTS AT 48 FOOT INTERVALS, AND ADJACENT TO CONCRETE CURBS, DRIVEWAYS, FOUNDATIONS, ETC. F. CONCRETE DRIVEWAY APRONS SHALL BE IN ACCORDANCE WITH THE ABOVE AND THE PLANS. PROVIDE 6" X 6" NO.
STRUCTURAL FILL MATERIAL MAY BE PLACED WITHIN THOSE PORTIONS OF THE SITE NOT REQUIRING STRUCTURAL FILL, TO WITHIN SIX (6) INCHES OF THE PLAN FINISHED GRADE ELEVATION. IN AREAS REQUIRING STRUCTURAL FILL, HOWEVER, THIS MATERIAL SHALL NOT BE PLACED OVER TOPSOIL OR OTHER UNSUITABLE MATERIALS UNLESS SPECIFICALLY DIRECTED BY A SOILS ENGINEER WITH THE CONCURRENCE OF THE OWNER.	6 WELDED WIRE MESH IN DRIVEWAYS. PROVIDE 1/2 " PREMOLDED FIBER EXPANSION JOINT ADJACENT TO CURBS AND CONCRETE SIDEWALKS. PROVIDE SAWED OR FORMED CONTRACTION JOINT AT MID-POINT AND 15 FOOT MAXIMUM. G. STANDARD REINFORCED CONCRETE PAVEMENT SHALL BE IN ACCORDANCE WITH THE ABOVE AND THE PLANS. SAWED
C. COMPACTION OF THE CLAY AND OTHER SUITABLE MATERIALS, SHALL BE TO AT LEAST 93% OF THE MODIFIED PROCTOR DRY DENSITY WITHIN PROPOSED PAVEMENT AREAS, SIDEWALK, ETC. COMPACTION SHALL BE AT LEAST 95% OF THE MODIFIED PROCTOR WITHIN PROPOSED BUILDING PAD AREAS.	OR FORMED CONTRACTION EXPANSION JOINTS SHALL BE AS SHOWN ON THE PLANS. H. CONCRETE CURING AND PROTECTION SHALL BE IN ACCORDANCE WITH INDOT SPECIFICATIONS.
D. EXCAVATION: QUANTITIES OF EARTH EXCAVATION INDICATED ELSEWHERE IN THIS CONTRACT HAVE BEEN COMPUTED BY THE END AREA METHOD.EXCAVATED MATERIALS NOT NEEDED FOR THIS JOB SITE SHALL BE LEGALLY DISPOSED OF. PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE PER CUBIC YARD OF EARTH EXCAVATION.	 I. THE COST OF AGGREGATE BASE OR SUB-BASE UNDER CONCRETE WORK SHALL BE INCLUDED IN THE COST OF THE RESPECTIVE CONCRETE ITEM. 4. FLEXIBLE PAVEMENT
4. UNSUITABLE MATERIAL UNSUITABLE MATERIAL SHALL BE CONSIDERED AS MATERIAL WHICH IS NOT SUITABLE FOR THE SUPPORT OF PAVEMENT AND BUILDING CONSTRUCTION, AND IS ENCOUNTERED BELOW NORMAL TOPSOIL DEPTHS AND THE PROPOSED SUBGRADE ELEVATION. THE DECISION TO REMOVE SAID MATERIAL, AND TO WHAT EXTENT, SHALL BE MADE BY A SOILS ENGINEER WITH THE CONCURRENCE OF THE OWNER.	A. THE PAVEMENT MATERIALS FOR BITUMINOUS STREETS, PARKING LOTS, DRIVEWAYS, SIDEWALKS AND PATHS SHALL BE AS DETAILED ON THE PLANS. UNLESS OTHERWISE SHOWN ON THE PLANS, THE FLEXIBLE PAVEMENTS SHALL CONSIST OF AGGREGATE BASE COURSE, TYPE B; BITUMINOUS CONCRETE BINDER COURSE; AND BITUMINOUS CONCRETE SURFACE COURSE; OF THE THICKNESS AND MATERIALS SPECIFIED ON THE PLANS. THICKNESSES SPECIFIED SHALL BE CONSIDERED TO BE THE MINIMUM COMPACTED THICKNESS. THE PAVING IS TO BE DONE IN ACCORD WITH THE STANDARD INDOT SPECIFICATIONS.
MISCELLANEOUS THE CONTRACTOR SHALL: A. SPREAD AND COMPACT UNIFORMLY TO THE DEGREE SPECIFIED ALL EXCESS TRENCH SPOIL AFTER COMPLETION OF THE UNDERGROUND IMPROVEMENTS.	B. ALL TRAFFIC SHALL BE KEPT OFF THE COMPLETED AGGREGATE BASE UNTIL THE BINDER COURSE IS LAID. THE AGGREGATE BASE SHALL BE UNIFORMLY PRIME COATED AT A RATE OF 0.4 TO 0.5 GALLONS PER SQUARE YARD PRIOR TO PLACING THE BINDER COURSE. PRIME COAT MATERIALS SHALL BE BITUMINOUS M.C 30.
B. SCARIFY, DISC, AERATE, AND COMPACT, TO THE DEGREE SPECIFIED, THE UPPER TWELVE (12) INCHES OF THE SUITABLE SUBGRADE MATERIAL, IN ALL AREAS THAT MAY BE SOFT DUE TO EXCESS MOISTURE CONTENT. THIS APPLIES TO CUT AREAS AS WELL AS FILL AREAS.	C. PRIOR TO PLACEMENT OF THE SURFACE COURSE, THE BINDER COURSE SHALL BE CLEANED, AND TACK COATED IF DUSTY OR DIRTY. ALL DAMAGED AREAS IN THE BINDER, BASE OR CURB SHALL BE REPAIRED TO THE SATISFACTION OF THE OWNER PRIOR TO LAYING THE SURFACE COURSE. THE CONTRACTOR SHALL PROVIDE WHATEVER EQUIPMENT AND MANPOWER NECESSARY, INCLUDING THE USE OF POWER BROOMS IF REQUIRED BY THE OWNER, TO PREPARE
C. PROVIDE WATER TO ADD TO DRY MATERIAL IN ORDER TO ADJUST THE MOISTURE CONTENT FOR THE PURPOSE OF ACHIEVING THE SPECIFIED COMPACTION.	THE PAVEMENT FOR APPLICATION OF THE SURFACE COURSE. THE TACK COAT SHALL BE UNIFORMLY APPLIED TO THE BINDER COURSE AT A RATE OF 0.05 TO 0.10 GALLONS PER SQUARE YARD. TACK COAT SHALL BE AS SPECIFIED IN INDOT SPECIFICATION 406.
D. BACKFILL THE CURB AND GUTTER AFTER ITS CONSTRUCTION AND PRIOR TO THE PLACEMENT OF THE BASE COURSE MATERIAL. THE CURBS SHALL NOT BE BACKFILLED UNTIL THE CONCRETE HAS CURED FOR AT LEAST 7 DAYS.	D. SEAMS IN BASE, BINDER AND SURFACE COURSE SHALL BE STAGGERED A MINIMUM OF 6".E. FOR NEW STREETS, THE CONTRACTOR SHALL PERMIT THE BITUMINOUS CONCRETE BINDER COURSE TO
E. TRENCH COMPACTION: ALL TRENCHES SHALL BE COMPACTED BY MECHANICAL TECHNIQUES APPROVED BY THE SOILS ENGINEER UNTIL PROPER COMPACTION IS ACHIEVED. THE REQUIREMENT FOR MECHANICAL COMPACTION MAY BE WAIVED IF, IN THE OPINION OF THE SOILS ENGINEER AND THE MUNICIPAL ENGINEER, THE BACKFILLED TRENCHES MEET THE DENSITY REQUIREMENTS. JETTING OF TRENCHES FOR COMPACTION WILL NOT BE ALLOWED.	WEATHER ONE (1) WINTER SEASON PRIOR TO THE INSTALLATION OF THE BITUMINOUS CONCRETE SURFACE COURSE UNLESS OTHERWISE SPECIFIED BY THE MUNICIPAL ENGINEER OR OWNER. 5. TESTING AND FINAL ACCEPTANCE
6. TESTING AND FINAL ACCEPTANCE	A. THE CONTRACTOR SHALL FOLLOW THE QUALITY CONTROL TESTING PROGRAM FOR CONCRETE AND PAVEMENT MATERIALS ESTABLISHED BY THE OWNER AND/OR MUNICIPALITY. TESTING SHALL BE DONE IN ACCORD WITH THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION IN ILLINOIS AND THE TESTING
A. THE CONTRACTOR SHALL PROVIDE AS A MINIMUM, A FULLY LOADED SIX-WHEEL TANDEM AXLE TRUCK FOR PROOF ROLLING THE PAVEMENT SUBGRADE PRIOR TO THE PLACEMENT OF THE CURB AND GUTTER AND THE BASE MATERIAL. THIS SHALL BE WITNESSED BY MUNICIPAL ENGINEER AND THE OWNER. SEE PAVING SPECIFICATION.	REQUIREMENTS OF THE MUNICIPALITY. B. WHEN REQUESTED BY THE OWNER, TEST RESULTS AND DOCUMENTATION FOR THE CONCRETE, BASE COURSE, BITUMINOUS CONCRETE BINDER, AND/OR SURFACE COURSE, SHALL BE SUBMITTED FOR VERIFICATION.
B. ANY UNSUITABLE AREA ENCOUNTERED AS A RESULT OF PROOF ROLLING SHALL BE REMOVED AND REPLACED WITH SUITABLE MATERIAL, OR OTHERWISE CORRECTED, APPROVED BY THE SOILS CONSULTANT.	C. PRIOR TO PLACEMENT OF THE BITUMINOUS CONCRETE SURFACE COURSE, THE CONTRACTOR, WHEN REQUIRED BY THE OWNER OR MUNICIPALITY, SHALL OBTAIN SPECIMENS OF THE BINDER COURSE WITH A CORE DRILL WHERE
C. ANY TESTING THAT IS REQUIRED OF THIS CONSTRUCTION IS CONSIDERED INCIDENTAL TO THE COST OF CONSTRUCTION. NO SEPARATE PAYMENT WILL BE MADE.	DIRECTED, FOR THE PURPOSE OF THICKNESS VERIFICATION. D. WHEN REQUIRED BY THE OWNER OR MUNICIPALITY, THE CONTRACTOR SHALL OBTAIN SPECIMENS OF THE FULL DEPTH BITUMINOUS CONCRETE PAVEMENT STRUCTURE WITH A CORE DRILL WHERE DIRECTED, IN ORDER TO CONFIRM THE
SIGNING AND PAVEMENT MARKING	PLAN THICKNESS. DEFICIENCIES IN THICKNESS SHALL BE ADJUSTED FOR BY THE METHOD DESCRIBED IN (SSRBC), ART. 407.10. E. FINAL ACCEPTANCE OF THE TOTAL PAVEMENT INSTALLATION SHALL BE SUBJECT TO THE TESTING AND CHECKING REQUIREMENTS CITED ABOVE.
 ALL SIGNING AND PAVEMENT MARKING SHALL BE IN ACCORDANCE WITH THE INDIANA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), MUNICIPAL CODE AND THESE PLANS. 	
2. CONTRACTOR SHALL ESTABLISH LOCATION OF ALL SIGNS AND MARKINGS FOR APPROVAL BY THE OWNER PRIOR TO INSTALLATION.	
 SIGNS: SIGNS AND LEGEND SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MUTCD AND AS SHOWN ON THE PLANS. POSTS: SIGN POSTS SHALL BE A HEAVY DUTY STEEL "U" SHAPED CHANNEL WEIGHING 3.0 POUNDS/FOOT SUCH AS 	
A TYPE B METAL POST OR A 2" PERFORATED STEEL TUBE. 5. SIGNS AND POSTS SHALL BE INSTALLED IN ACCORDANCE WITH THE MUTCD AND INDOT STANDARD SPECIFICATIONS	
STANDARD SPECIFICATIONS. 6. PAVEMENT MARKINGS: ALL PAVEMENT MARKINGS IN THE RIGHT-OF-WAY LIMITS, SUCH AS STOP LINES, CENTERLINES, CROSSWALKS AND DIRECTIONAL ARROWS SHALL BE REFLECTORIZED THERMOPLASTIC THE MUTCD.	

8. COLOR, WIDTH, STYLE, AND SIZE OF ALL MARKINGS SHALL BE IN ACCORDANCE WITH (MUTCD) EXCEPT AS MODIFIED BY THE PLANS.

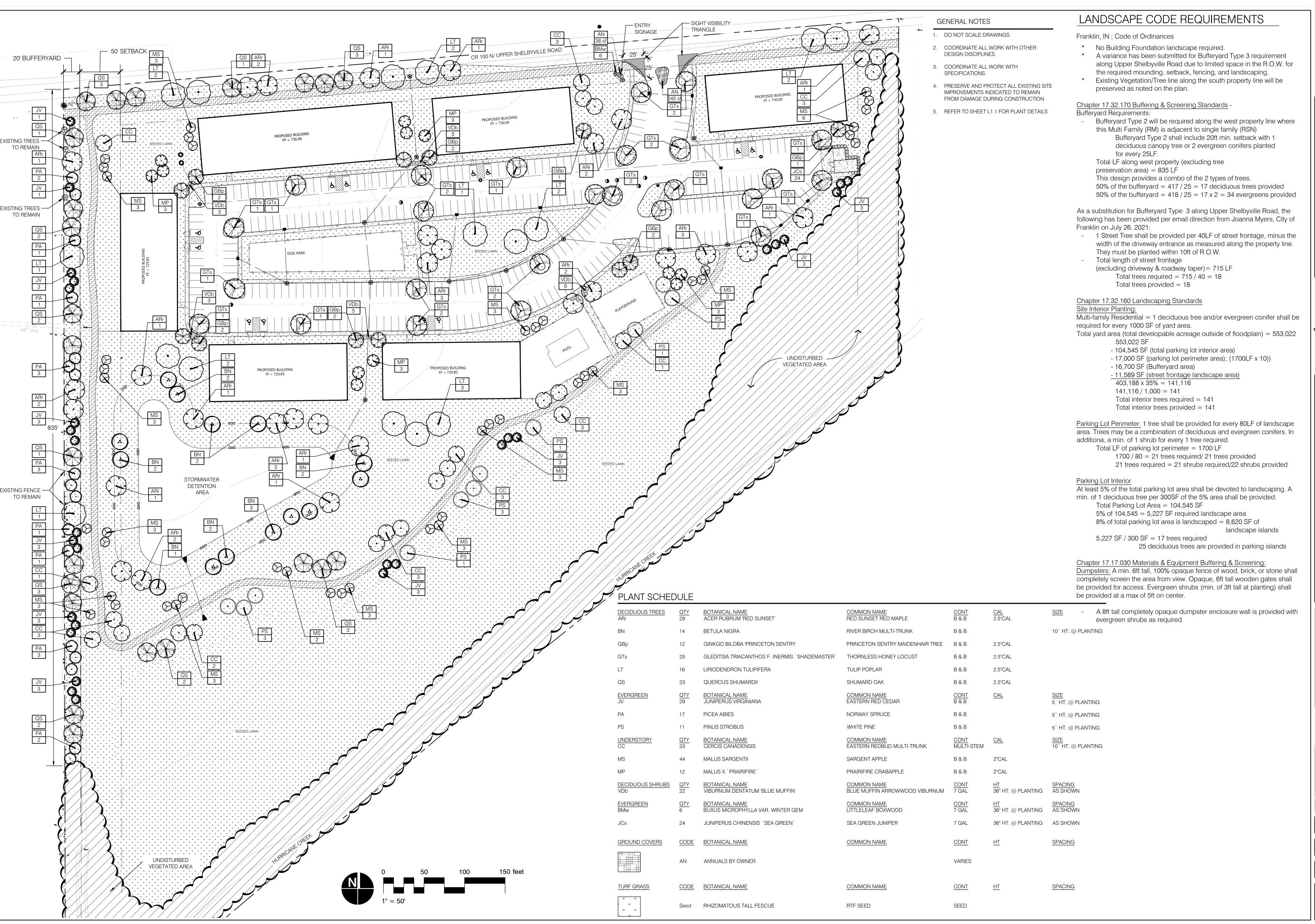
9. THERMOPLASTIC MARKINGS SHALL BE INSTALLED WHEN THE PAVEMENT TEMPERATURE IS 55° F AND RISING. PAINT MARKINGS MAY BE INSTALLED WHEN THE AIR TEMPERATURE IS 50° F AND RISING.

SEE CITY OF FRANKLIN CONSTRUCTION STANDARDS FOR ALL SANITARY SEWER SPECIFICATIONS. STORM SEWER NOTES SEE CITY OF FRANKLIN CONSTRUCTION STANDARDS FOR ALL STORM SEWER SPECIFICATIONS. WATERMAIN NOTES SEE INDIANA AMERICAN WATER STANDARDS FOR ALL WATER MAIN AND APPURTENANCE SPECIFICATIONS.

SANITARY SEWER NOTES



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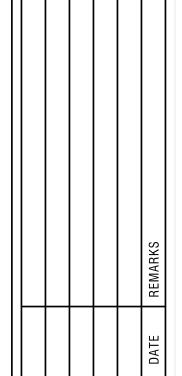
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GENERAL NOTES: 1. BROWNING DAY CLAIMS NO RESPONSIBILITY FOR THE ACCURACY OF THE INFORMATION PROVIDED IN THE SURVEYS. IF ANY DISCREPANCIES ARE FOUND ON THE SURVEY PLAN OR FROM ACTUAL FIELD CONDITIONS THE CONTRACTOR SHALL CONTACT THE LANDSCAPE ARCHITECT IMMEDIATELY. 2. IT IS THE RESPONSIBILITY OF THE CONTRACTOR OR CONTRACTORS TO OBTAIN FEDERAL, STATE, COUNTY, CITY, AND LOCAL PERMITS FOR WORK REQUIRED UNLESS OTHERWISE NOTED. THE CONTRACTOR OR CONTRACTORS ARE RESPONSIBLE TO PAY FOR REQUIRED PERMITS BY AGENCIES MENTIONED ABOVE UNLESS OTHERWISE NOTED BY THE CONTRACT OR SPECIFICATIONS. 3. SEED OR SOD DAMAGE TO EXCAVATED AREAS AFTER FINAL GRADING UNLESS OTHERWISE NOTED. SEE PLANTING PLAN AND/OR EROSION CONTROL PLAN FOR DIRECTION AND VERIFICATION. 4. DAMAGE TO EXISTING IMPROVEMENTS, EXCAVATION AND /OR REMOVAL OF EXISTING IMPROVEMENTS SHALL BE RESTORED, RECONSTRUCTED, OR REPLACED DURING CONSTRUCTION BY THE CONTRACTOR AT HIS EXPENSE. 5. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REMOVE MUD, DIRT, GRAVEL, AND ANY OTHER MATERIALS TRUCKED ONTO ANY PUBLIC OR PRIVATE STREETS OR SIDEWALKS ON OR OFF THE PROJECT SITE. 6. PROVIDE SMOOTH TRANSITION FROM NEW AREAS TO EXISTING FEATURES AS NECESSARY. 7. IN CASE OF DISCREPANCIES BETWEEN THE PLAN AND PLANT LIST, THE PLAN SHALL DICTATE. IF PLANT IDENTIFICATION BOX QUANTITY SHOWN ON PLAN DIFFERS FROM GRAPHIC PLANT CIRCLE COUNT, THE GRAPHIC CIRCLE COUNT SHALL DICTATE. IF IN QUESTION CONTACT THE LANDSCAPE ARCHITECT. 8. NO SUBSTITUTION OF PLANT MATERIAL IS ALLOWED. IF PLANTS ARE SHOWN TO BE UNAVAILABLE, NOTIFY LANDSCAPE ARCHITECT PRIOR TO BID DATE IN WRITING. PLANTS SHALL BE INSPECTED AND TAGGED WITH PROJECT IDENTIFICATION AT NURSERY OR CONTRACTOR'S OPERATION PRIOR TO MOVING TO JOB SITE. PLANTS MAY ALSO BE INSPECTED AND APPROVED OR REJECTED AT THE JOB SITE. 9. PLANTS ARE TO MEET OR EXCEED AMERICAN STANDARDS FOR NURSERY STOCK, CURRENT EDITION, AS SET FORTH BY AMERICAN ASSOCIATION OF NURSERYMEN. 10. PLANTS AND OTHER MATERIAL TO BE STORED ON SITE WILL BE PLACED WHERE THEY WILL NOT CONFLICT WITH CONSTRUCTION OPERATIONS. 11. PLANTING BEDS SHALL HAVE A SPADED EDGE TO A DEPTH EQUAL TO SPECIFIED MULCH THICKNESS, UNLESS OTHERWISE NOTED. 12. SEED AND STRAW ALL DISTURBED AREAS. 1'-6" UNLESS NOTED G O.C. SPACING PER PLANS OR PLANTING SCHEDULE OTHERWISE SPADE EDGE — — SHREDDED HARDWOOD MULCH, NO MORE THAN 1" MULCH ON TOP OF FINISH GRADE — ROOTBALL - PLANTING SOIL, DEPTH PER SPECIFICATIONS EXISTING SUBGRADE MASS SHRUB PLANTING — SET TREE TRUNK PLUMB — TAMPED EARTH BERM MADE FROM BACKFILL SOIL, 4" HIGH X 8" WIDE ABOVE SURFACE OF ROOTBALL - SHREDDED HARDWOOD MULCH, NO MORE THAN 1" MULCH ON TOP OF ROOTBALL SPADE EDGE — ← BACKFILL PER SPECIFICATIONS FINISH GRADE -EDGE CONDITION VARIES, SEE SITE PLANTING PLAN - PLANTING SOIL, DEPTH PER SPECIFICATIONS - SCARIFY EDGE OF **EXCAVATION** BOTTOM OF ROOTBALL TO REST $\overline{}$ ON EXISTING SUBGRADE OR - BREAKTHROUGH AND RECOMPACTED SOIL REMOVE ALL HARDPAN AND DEBRIS TO ALLOW EXISTING SUBGRADE -PERCOLATION AND POSITIVE DRAINAGE 1. PLANT MATERIAL AND MULCH TO FOLLOW SPECIFICATIONS OUTLINED IN SECTION 32 93 00 2. PLANTING SOIL AND SUBGRADE TO BE PREPARED PER SPECIFICATIONS OUTLINED IN SECTION 32 91 00 * OVER DIG TREE PIT PER SPECIFICATIONS** TREE ROOTBALL PER SPECIFICATIONS 11582 TREE PLANTING PIT (LEVEL GRADE) L1.1 1" = 1'-0"







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