Addendum #02

Client: Ball State University  Date: February 1, 2019
Project: New York Avenue Parking Structure - REBID  Champlin Project #: 692-6004
BSU Project #: 2018-014.01 XP

This addendum provides information to clarify or adjust construction items which may affect any or all trade contractors. The original documents for the referenced project are amended as noted in this addendum and made part of said documents and shall govern the work covered by the Form of Proposal. All work to be in strict accordance with the terms, stipulations and conditions of contract documents.

SUMMARY OF ATTACHMENTS

1. Specifications
   a. 015500 “Temporary Facilities and Controls”
   b. 334100 “Subdrainage”

2. Drawings:

PART 1 – ARCHITECTURAL SPECIFICATIONS

1. Section 015000 – “Temporary Facilities and Controls” – Replace existing section its entirety with the attached.

2. Section 057500 – “Decorative Formed Metal”
   a. Item 2.6B.1.a – Thickness shall be 8 ga.
   b. Item 2.6B.2.a – Pattern shall be ½” square on 11/16” centers; 53% openness factor
   c. Item 2.8A.1 – Finish/Color shall be equal to Duranar Sunstorm Coating “Silverstorm”, two coat system with mica-containing color coat.

3. Section 075423 – “PVC Roofing” – Eliminate this section in its entirety. PVC roofing is specified in Section 075419

4. Section 078413 – “Penetration Firestop Systems” – Item 2.1B – Add Hilti to the list of available manufacturers.

5. Section 083613 – “Sectional Doors”
   a. Item 2.4C – Eliminate this item
   b. Add Item 3.1B – Add the following: “Coat backs of anchors that are secured to concrete with bituminous paint.”

6. Section 084113 – “Aluminum-Framed Entrances and Storefronts”
   a. Item 2.2E – Eliminate
   b. Item 2.2F – Eliminate
   c. Item 2.2H – Eliminate
d. Item 2.2I – Eliminate

e. Item 2.3A
   i. Item 1 – Shall be EFCO 401, 1-3/4” sightline
   ii. Item 2 – Shall be Kawneer TriFab 450, 1-3/4” sightline
   iii. Item 3 – Shall be Oldcastle FG2000, 1-3/4” sightline
   iv. Item 4 – Shall be YKK YES 45 FS, 1-3/4” sightline
   v. Add Item 5, Tubelite E14000 I/O, 1-3/4” sightline

f. Item 2.4A
   i. Item 1 – Shall be EFCO D500 with 10” bottom rail
   ii. Item 2 – Shall be Kawneer 500 with 10” bottom rail
   iii. Item 3 – Shall be Oldcastle WS 500 with 10” bottom rail
   iv. Item 4 – Shall be YKK 50D with 10” bottom rail
   v. Add Item 5, Tubelite Standard Wide with 10” bottom rail

g. Item 2.10A
   i. Aluminum Finish shall be equal to Duranar Sunstrom Coating, 2-coat system with Primer and Mica-Containing Color “Silverstorm”.

7. Section 084413 – “Glazed Aluminum Curtain Walls”
   a. Item 2.2A
      i. Item 1 – EFCO 5900, 7.5”, reinforced as required
      ii. Item 2 – Kawneer 1600-1/SS, 7.5”, reinforced as required
      iii. Item 3 – Oldcastle Reliance, 7.5”, reinforced as required
      iv. Item 4 – Shall be YKK YCW 750/SSG, 7.5”, reinforced as required
      v. Add Item 5 – Tubelite 400CW/SSG, 7.5”, reinforced as required

    b. Item 2.8
       i. Aluminum Finish shall be equal to Duranar Sunstrom Coating, 2-coat system with Primer and Mica-Containing Color “Silverstorm”.

8. Section 087100 – “Door Hardware”
   a. Add Item 2.3A.3 “Trim: 17B”
   b. Item 2.3B.1 shall read “Sparta” in lieu of “17B”
   c. Item 2.5A shall read “LCN 4040XP” in lieu of “4600 Series”

9. Section 087113 – “Automatic Door Operators” – Item 2.1A shall be limited to LCN, An Allegion Brand, 4600 Series. Eliminate all other items.

10. Section 08800 – “Glazing”
    a. Item 2.1A – ADD Item 4. Old Castle to the list of manufacturers.

11. Section 101400 - “Signage”, Item 2.1B – Add Essential Architectural Signs, Inc. to the list of approved manufacturers.

PART 2 – COMMUNICATIONS SYSTEMS SPECIFICATIONS

1. SECTION 271116: COMMUNICATION RACKS, FRAMES, AND ENCLOSURES
   Paragraph 2.2 I.1.: Change Ortronics part number for the copper patch panel to “#OR-PH06AU48”.

2. SECTION 271116: COMMUNICATION RACKS, FRAMES, AND ENCLOSURES
   Paragraph 2.2 J.: Delete paragraph for patch panel jacks, since patch panel is revisited to version that includes jacks.
PART 3 – ELECTRONIC SAFETY AND SECURITY SYSTEMS SPECIFICATIONS

1. SECTION 28300: VIDEO SURVEILLANCE
   Paragraph 1.3.: Description of base Bid and Alternate scope is being brought to bidder’s attention for clarification. Base Bid scope includes: the 8MP Multi-Directional Cameras (under Paragraph 2.3 A) and associated cabling for the cameras mounted on the Emergency Telephone Towers (see Section 275123), and the raceways and boxes for the cameras located in and mounted on the Parking Structure. Alternate Bid scope includes: 5MP Mini-Dome (under Paragraph 2.4 A) and 5MP Bullet Cameras (under Paragraph 2.4 B) to be mounted in and on the parking Structure, and accessories and cabling. Refer to Section 01 23 00, “Alternates”, for alternate number and additional requirements.

   Paragraph 2.3.: The 8MP Multi-Directional Cameras under this paragraph are to be provided under Base Bid to be mounted on the Emergency Telephone Towers (see Section 275123).

   Paragraph 2.4 A.: The 5MP Mini-Dome Cameras under this paragraph are to be provided under an Alternate Bid, along with associated accessories and cabling, and to be installed overhead above the Ground, Second and Third Parking Tiers, and on the light poles on the Top Tier of the Parking Structure.

   Paragraph 2.4 B.: The 5MP Bullet Style Cameras under this paragraph are to be provided under an Alternate Bid, along with associated accessories and cabling, and to be installed on the exterior of the Top Tier of the Parking Structure.

PART 4 – CIVIL SPECIFICATIONS

1. Section 334100 – “Subdrainage” – Replace existing section its entirety with the attached.
   a. Provide clarification on type of subdrainage piping, backfill, and geotextile fabric.

PART 5 – CIVIL DRAWINGS

1. Sheet C201
   a. Provide clarification on mountable curb width and demarcation of depressed curb across ingress/egress to garage.

2. Sheet C202
   a. Update Mountable Concrete Curb and Gutter Detail

3. Sheet C301
   a. Modify spot grades along Studebaker Drive and east side to accommodate cover over detention system and access to maintenance ramp within garage.
   b. Revise spot grades in vicinity of transformer pad
   c. Revised rim elevations for Structures 702, 705, 706, and 707

4. Sheet C501
   a. Remove Rim Elevations and Pipe Inverts from Storm labels (provided on C701)
   b. Remove pipe labels (provided on C701)
   c. Add Keynote 7 label for underdrains shown on Structure 714

5. Sheet C701
   a. Revised rim elevations for Structures 702, 705, 706, and 707
6. Sheet C702
   a. Revise casting type for Structure 705
   b. Provide Perforated Underdrain (SSD) W/Gravel Backfill Detail
   c. Provide Pipe Underdrain Detail W/Chairback Curb
   d. Provide clarification on Precast Type “J” Inlet Detail

PART 6 – LANDSCAPE DRAWINGS
1. Sheet L103
   a. Replace all sodded lawns with seeded lawns; add 93 sf of lawn; delete one (1) GYM D
      tree, delete twenty-six (26) HEM M ground covers; and delete twenty (20) NEP W ground
      covers.

PART 7 – STRUCTURAL DRAWINGS
1. Sheet S-090
   a. Revised foundations to reflect the relocation of the ramp down to the detention space.

2. Sheet S-101
   a. Relocated ramp down to the detention space and revised detail cuts.

3. Sheet S-511
   a. Revised expansion joint reference on Detail 3.

4. Sheet S-512
   a. Revised Detail 3 to reflect updated ramp to detention space information.

PART 8 – ARCHITECTURAL DRAWINGS
1. Sheet A101
   a. On 1/A101, LEVEL 1 FLOOR PLAN, revise ramp location along column line 15.
   c. On 4/A101, revise elevation.
   d. On 5/A101, add note regarding angle frame.

2. Sheet A121 (Sheet not Reissued)
   a. General Notes – Finish Colors – Item A shall read “Finish/Color shall be equal to Duranar
      Sunstorm Coating, 2-coat system with Primer and Mica-Containing Color “Silverstorm”.
   b. Keynotes- Reflected Ceiling Plans- Revise Keynote 2 on view 1/A121 to be Keynote 1.
      Keynote 2 to change to “NOT USED”.

3. Sheet A201
   a. General Notes – Finish Colors – Item A shall read “Finish/Color shall be equal to Duranar
      Sunstorm Coating, 2-coat system with Primer and Mica-Containing Color “Silverstorm”.
   b. Revise keynote #19.
   c. On 3/A201 ELEVATION – WEST (CAMPUS GREEN), add note 19.
   d. On 4/A201 ELEVATION – EAST (NEW YORK AVENUE), revise location of ramp gate.

3. Sheet A210
   a. On 1/A210 ELEVATION – WEST (CAMPUS GREEN) PANEL SCHEDULE, add note
      indicating limestone faced entry pier.
   b. On 2/A210 ELEVATION – EAST (NEW YORK AVENUE) PANEL SCHEDULE, revise
      location of ramp gate.
4. Sheet AG-102  
   a. Added one pipe bollard at west stair/elevator for protection.

5. Sheet AG-103  
   a. Added one pipe bollard at west stair/elevator for protection.

6. Sheet AG-104  
   a. Added one pipe bollard at west stair/elevator for protection.

PART 9 – PLUMBING DRAWINGS

1. SHEET P201: GROUND TIER - PLUMBING  
   Replace Sheet P201 with Sheet P201 attached to this addendum.

2. SHEET P202: SECOND TIER - PLUMBING  
   Replace Sheet P202 with Sheet P202 attached to this addendum.

3. SHEET P203: THIRD TIER - PLUMBING  
   Replace Sheet P203 with Sheet P203 attached to this addendum.

4. SHEET P204: TOP TIER - PLUMBING  
   Replace Sheet P204 with Sheet P204 attached to this addendum.

PART 10 – ELECTRICAL DRAWINGS

1. SHEET E200: SITE LIGHTING PLAN BASE BID  
   Replace Sheet E200 included in “Issued for Rebid” set dated 1/16/19 with Sheet E200 attached to this addendum.

2. SHEET E601: ELECTRICAL POWER DISTRIBUTION DIAGRAM  
   Replace Sheet E601 included in “Issued for Rebid” set dated 1/16/19 with Sheet E601 attached to this addendum.

3. SHEET E701: ELECTRICAL SCHEDULES  
   Replace Sheet E701 included in “Issued for Rebid” set dated 1/16/19 with Sheet E701 attached to this addendum.

4. SHEET E800: LUMINAIRE (LIGHT FIXTURE) SCHEDULE  
   Replace Sheet E800 included in “Issued for Rebid” set dated 1/16/19 with Sheet E800 attached to this addendum.

Issued By:

Champlin Architecture  
Sean M. Bright, AIA  
Principal

End of Addendum
SECTION 01 50 00
TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL
1.1 SECTION INCLUDES

A. Temporary Utilities:
1. Temporary electricity.
2. Temporary lighting for construction purposes.
3. Temporary heating.
4. Temporary ventilation.
5. Telephone service.
6. Temporary water service.
7. Temporary sanitary facilities.

B. Construction Facilities:
1. Field offices and sheds.
2. Vehicular access.
3. Parking.
4. Progress cleaning and waste removal.
5. Project identification.
7. Tobacco-Free Campus policy.
8. Fire prevention facilities.

C. Temporary Controls:
1. Barriers.
2. Enclosures and fencing.
4. Water control.
5. Dust control.
7. Noise control.
8. Pollution control.

D. Removal of utilities, facilities, and controls.

1.2 TEMPORARY ELECTRICITY

A. Owner will pay for cost of energy used. Exercise measures to conserve energy. Utilize Owner’s existing power service.
B. Provide temporary electric feeder from existing building. Do not disrupt Owner’s use of service.
C. Complement existing power service capacity and characteristics as required for construction operations.
D. Provide power outlets with ground fault circuit interruption, with branch wiring and distribution boxes located as required for construction operations. Provide flexible power cords as required for portable construction tools and equipment.

E. Provide main service disconnect and over-current protection at convenient location.

F. Permanent convenience receptacles may [not] be utilized during construction.

1.3 TEMPORARY LIGHTING FOR CONSTRUCTION PURPOSES

A. Provide and maintain lighting for construction operations to achieve minimum lighting level of 25 lumens/sq ft (270 lumens/sq m).

B. Provide and maintain 12 lumens/sq ft (130 lumens/sq m) lighting to exterior staging and storage areas [entire site] after dark for security purposes.

C. Provide and maintain 3 lumens/sq ft (32 lumens/sq m) HID or LED lighting to interior work areas after dark for security purposes.

D. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, and lamps for specified lighting levels.

E. Maintain lighting and provide routine repairs.

F. Permanent building lighting may not be utilized during construction.

1.4 TEMPORARY HEATING

A. Existing facilities shall not be used.

B. Provide and pay for cost of temporary heating devices and heat as needed to maintain specified conditions for construction operations.

C. Permanent equipment shall not be used for temporary heating purposes. Prior to start-up, verify installation is approved for operation, equipment is lubricated and filters are in place. Provide and pay for operation, maintenance, and regular replacement of filters and worn or consumed parts prior to Substantial Completion.

1. Permanent equipment shall not be operated until after all dust-making operations are completed, the building is permanently enclosed, and the systems are ready for commissioning activities to begin.

D. Maintain minimum ambient temperature of 50 degrees F (10 degrees C) in areas where construction is in progress, unless indicated otherwise in product sections.

1.5 TEMPORARY VENTILATION

A. Ventilate enclosed areas to achieve curing of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

1.6 TELEPHONE SERVICE

A. Provide, maintain, and pay for telephone service at project site at time of project mobilization.

1.7 TEMPORARY WATER SERVICE

A. Extend from existing utility water system and supplement with temporary devices as needed to maintain specified conditions for construction operations. Cost of use shall be paid for by the Contractor.
B. Extend branch piping with outlets located so water is available by hoses with threaded connections.

1.8 TEMPORARY SANITARY FACILITIES

A. Provide and maintain required facilities and enclosures. Existing facility use is not permitted. Provide facilities at time of project mobilization.

1.9 FIELD OFFICES AND SHEDS

A. Do not use existing facilities for field offices or for storage.
B. Office: Manufactured mobile office, weather tight, with lighting, electrical outlets, heating, cooling and ventilating equipment, and equipped with sturdy furniture drawing rack, and drawing display table.

1. Lighting for Offices: 50 ft C (538 lx) at desk top height, exterior lighting at entrance doors.
2. Interior Materials in Offices: Sheet type materials for walls and ceilings, pre-finished or painted; resilient floors and bases.
3. Provide anchorage as required to ensure office stability and resistance to wind loads.

C. Provide space for Project meetings, with table and chairs to accommodate 12 twelve persons.

D. Locate offices and sheds minimum distance of 30 feet (10 m) from existing and new structures.

E. Do not use permanent facilities for field offices or for storage.

F. Environmental Control:

1. Heating, Cooling, and Ventilating for Offices: Automatic equipment to maintain comfort conditions 68 degrees F (20 degrees C) heating and 76 degrees F (23 degrees C) cooling.
2. Storage Spaces: Heating and ventilation as needed to maintain products in accordance with Contract Documents; lighting for maintenance and inspection of products.

G. Storage Areas And Sheds: Size to storage requirements for products of individual Sections, allowing for access and orderly provision for maintenance and for inspection of products to requirements of Section 01 60 00 - Product Requirements.

H. Preparation: Fill and grade sites for temporary structures sloped for drainage away from buildings.

I. Installation:

1. Install office spaces ready for occupancy 15 days after date fixed in Award and Notice to Proceed.
2. Employee Residential Occupancy: Not allowed on Owner's property.

J. Maintenance And Cleaning:

1. Weekly janitorial services for offices; periodic cleaning and maintenance for office and storage areas.
2. Maintain approach walks free of mud, water, and snow.
K. Removal: At completion of Work remove buildings, foundations, utility services, and debris. Restore areas.

1.10 VEHICULAR ACCESS

A. Construct temporary all-weather access roads from public thoroughfares to serve construction area, of width and load bearing capacity to accommodate unimpeded traffic for construction purposes.
B. Construct temporary bridges and culverts to span low areas and allow unimpeded drainage.
C. Extend and relocate vehicular access as Work progress requires, provide detours as necessary for unimpeded traffic flow.
D. Location as indicated on Drawings.
E. Provide unimpeded access for emergency vehicles. Maintain 20 feet (6 m) wide driveways with turning space between and around combustible materials.
F. Provide and maintain access to fire hydrants and control valves free of obstructions.
G. Provide means of removing mud from vehicle wheels before entering streets.
H. Use designated existing on-site roads for construction traffic.

1.11 PARKING

A. Contractor personnel shall utilize existing parking as indicated on the “Site Access and Parking Plan. Parking on existing roads, driveways, or loading docks is not permitted.
B. Contractor shall purchase temporary parking permits for all construction and employees’ vehicles parking on University property. Permits are available at the Office of Parking Services.
C. All additional contractor or contractor employee vehicles must be parked in designated campus storage lots, or may use designated paid parking lots or structures.
D. Vehicles will not be allowed on sidewalks or landscaped areas without permission from Owner.
E. Use of designated existing on-site streets and driveways used for construction traffic is permitted. Tracked vehicles not allowed on paved areas.
F. Do not allow heavy vehicles or construction equipment in parking areas.
G. Do not allow vehicle parking on existing pavement or sidewalks.
H. Permanent Pavements And Parking Facilities:
   1. Prior to Substantial Completion, bases for permanent roads and parking areas may be used for construction traffic.
   2. Avoid traffic loading beyond paving design capacity. Tracked vehicles not allowed.
   3. Use of permanent parking structures is not permitted.
I. Maintenance:
   1. Maintain traffic and parking areas in sound condition free of excavated material, construction equipment, products, mud, snow, and ice.
   2. Maintain existing and permanent paved areas used for construction; promptly repair breaks, potholes, low areas, standing water, and other deficiencies, to maintain paving and drainage in original, or specified, condition.
J. Removal, Repair:
   1. Remove temporary materials and construction at Substantial Completion.
2. Remove underground work and compacted materials to depth of 2 feet (600 mm); fill and grade site as specified.

3. Repair existing facilities damaged by use, to original condition.

K. Mud From Site Vehicles: Provide means of removing mud from vehicle wheels before entering streets.

1.12 PROGRESS CLEANING AND WASTE REMOVAL

A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in clean and orderly condition.

B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing spaces.

C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.

D. Collect and remove waste materials, debris, and rubbish from site periodically and dispose off-site. **Comply with requirements of Section 01 74 19 – Construction Waste Management and Disposal.**

E. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

1.13 PROJECT IDENTIFICATION

A. No signs are allowed except those required for identification for delivery of materials or those erected by the Owner.

B. Owner shall provide and erect project identification sign.

1.14 TRAFFIC REGULATION

A. Haul Routes:

1. Consult with Owner for haul routes within University area and for site access.

2. Confine construction traffic to designated haul routes.

1.15 TOBACCO-FREE CAMPUS POLICY

A. Smoking is prohibited on the Ball State University Campus, including parking lots and streets within the campus boundaries. Contractor personnel shall comply with the Tobacco Free Campus Policy, available at http://cms.bsu.edu/media/WWW/DepartmentalContent/SmokeFree/TobaccoFreePolicy.pdf.

B. Contractor shall have the primary responsibility for enforcement of the policy.

C. Tobacco use in enclosed personal vehicles will be permitted as long as users contain smoke and tobacco products inside the vehicle (i.e. windows must be closed).

D. The University may assess a $100 fine for violations of the smoking policy.

1.16 FIRE PREVENTION FACILITIES

A. Establish fire watch for cutting and welding and other hazardous operations capable of starting fires. Maintain fire watch before, during, and after hazardous operations until threat of fire does not exist. Notify Owner of hot work per established notification procedures.
B. Standpipes: Install minimum one standpipe for use during construction before building reaches 40 feet (12 m) in height.

C. Portable Fire Extinguishers: NFPA 10; 10 pound capacity, 4A-60B: C UL rating.
   1. Provide one fire extinguisher at each stair on each floor of buildings under construction.
   2. Provide minimum one fire extinguisher in every construction trailer and storage shed.
   3. Provide minimum one fire extinguisher on roof during roofing operations using heat producing equipment.

1.17 BARRIERS

A. Provide barriers to prevent unauthorized entry to construction areas and to protect existing facilities and adjacent properties from damage from construction operations.

B. Provide barricades and covered walkways required by authorities having jurisdiction for public rights-of-way.

C. Provide protection for plants designated to remain. Replace damaged plants.

D. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

E. Install and maintain 6 foot high chain link fence at drip line of all trees scheduled to remain within project limits.

1.18 ENCLOSURES AND FENCING

A. Contractor shall arrange for and erect temporary site fencing and gate(s).
   1. Construction: Commercial grade chain link fence.
   2. Contractor shall provide 6 feet (1.8 m) high fence around construction site and equip with vehicular gates with locks, keyed to Owner’s master key system.

B. Exterior Enclosures:
   1. Provide temporary insulated weather tight closure of exterior openings to accommodate acceptable working conditions and protection for products, to allow for temporary heating and maintenance of required ambient temperatures identified in individual specification sections, and to prevent entry of unauthorized persons. Provide access doors with self-closing hardware and locks.

C. Trench Safety Systems:
   1. Trench Safety Systems shall comply with the requirements of IOSHA regulations 29 CFR 1926, Subpart P.
   2. Trench Safety Systems shall be used for any trench excavation 5 feet or more in depth, or as required by applicable regulations.
   3. Excavations that would undermine sidewalks, pavement, and appurtenant structures shall be provided with an appropriately designed support system or another effective method of protecting from the possible collapse of those structures
   4. Provide safe access and egress to all excavations, including ladders, steps, ramps, or other safe means of exit in trench excavations 4 feet or deeper. Provide safe access within 25 feet of all workers.
   5. Open excavations shall be protected by temporary barriers.
1.19 SECURITY

A. Security Program:

1. Protect Work, existing premises and Owner’s operations from theft, vandalism, and unauthorized entry.
2. Initiate program in coordination with Owner’s existing security system at project mobilization.
3. Maintain program throughout construction period until Owner occupancy.

B. Entry Control:

1. Restrict entrance of persons and vehicles into Project site and existing facilities.
2. Allow entrance only to authorized persons with proper identification.
3. Owner will control entrance of persons and vehicles related to Owner’s operations.

C. Restrictions:

1. Notify Owner if work will be done on Saturday, Sundays or after 7:00 p.m. and before 6:30 a.m.

1.20 WATER CONTROL

A. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.
B. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.
C. Provide dewatering to prevent standing water on site.

1.21 DUST CONTROL

A. Execute Work by methods to minimize raising dust from construction operations.
B. Provide positive means to prevent air-borne dust from dispersing into atmosphere.

1.22 EROSION AND SEDIMENT CONTROL

A. Plan and execute construction by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation in accordance with Indiana Department of Environmental management (IDEM) regulations.
B. Minimize surface area of bare soil exposed at one time.
C. Provide temporary measures including berms, dikes, and drains, and other devices to prevent water flow.
D. Construct fill and waste areas by selective placement to avoid erosive surface silts or clays.
E. Periodically inspect earthwork to detect evidence of erosion and sedimentation; promptly apply corrective measures.
F. Periodically maintain erosion and sedimentation control structures to ensure drainage capacity and prevent excess accumulation of sediment. Captured sediments shall be relocated on site.
1.23 NOISE CONTROL

A. Provide methods, means, and facilities to minimize noise produced by construction operations.

1.24 POLLUTION CONTROL

A. Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations.

B. Diesel, propane, or LNG powered equipment used within buildings shall be equipped with exhaust purifier scrubbers capable of reducing harmful pollutants a minimum of 80 percent. Scrubber shall reduce concentrations of Carbon Monoxide (CO), Hydrocarbons (HC), and Particulate Matter (PM) below daily exposure limits.

C. Comply with pollution and environmental control requirements of authorities having jurisdiction.

1.25 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

A. Remove temporary utilities, equipment, facilities, materials, prior to Substantial Completion inspection.

B. Remove underground installations to minimum depth of 2 feet (600 mm). Fill excavations and grade site as indicated on Drawings.

C. Clean and repair damage caused by installation or use of temporary work.

D. Restore existing and permanent facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION
SECTION 334100 - SUBDRAINAGE

PART 1  GENERAL

1.1  RELATED DOCUMENTS
   A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Section, apply to this Section.

1.2  SUMMARY
   A. Sub-surface Drains (SSDs), under pavement drainage systems.
   B. Sub-surface Drains (SSDs) in landscape and yard areas
   C. Aggregate, filter fabric, and bedding. and fabric

1.3  RELATED REQUIREMENTS
   A. Section 312316 - Excavation: Excavating for subdrainage system piping and surrounding filter aggregate.
   B. Section 312316.13 - Trenching: Excavating and backfilling for site subdrainage systems.
   C. Section 312323 - Fill: Backfilling over filter aggregate, up to subgrade elevation.

1.4  REFERENCE STANDARDS
   A. AASHTO M 252 - Standard Specification for Corrugated Polyethylene Drainage Pipe; 2009
   C. Geotechnical Engineering Investigation, Proposed East Parking Garage, Ball State University, North New York Avenue and Studebaker Drive, Muncie, Indiana. ATC Project No. 170GC00601. March 8, 2018.
   D. Indiana Department of Transportation Standards and Specifications.

1.5  SUBMITTALS
   A. Product Data: Provide data on pipe drainage products, and pipe accessories.
   B. Project Record Documents: Record location of pipe runs, connections, cleanouts and principal invert elevations.

1.6  REGULATORY REQUIREMENTS
   A. Conform to applicable code for materials and installation of the work of this section.

PART 2  PRODUCTS

2.1  PIPE MATERIALS
   A. Subsurface Drainage: Dual walled Perforated High-Density Polyethylene (HDPE) pipe, smooth wall interior, corrugated exterior, AASHTO M 252.
   B. Use perforated pipe at subdrainage system; unperforated through sleeved walls.
   C. Filter sock should not be used on perforated subsurface drainage.

2.2  AGGREGATE AND BEDDING
   A. Filter Aggregate and Bedding Material: Granular clean washed #8 gravel.

2.3  ACCESSORIES
   A. Pipe Couplings: Solid plastic.

PART 3  EXECUTION

3.1  EXAMINATION
   A. Verify that trench cut is ready to receive work and excavations, dimensions, and elevations are as indicated on layout Drawings.
3.2 PREPARATION
A. Hand trim excavations to required elevations. Correct over-excavation with #8 Washed Gravel.
B. Remove large stones or other hard matter that could damage drainage piping or impede consistent backfilling or compaction.
C. Subsurface drains should be included that extend out at least 20 feet from the inlets in pavement in at least four directions or as noted on plans.

3.3 INSTALLATION
A. Install and join pipe and pipe fittings in accordance with pipe manufacturer’s instructions.
B. Place drainage pipe on clean cut subsoil.
C. Place pipe with perforations facing down. Mechanically join pipe ends.
D. Install pipe couplings.
E. For subsurface drainage at landscape and yard areas, install filter fabric, install filter aggregate at sides, over joint covers and top of pipe. Provide top cover compacted thickness of 12 inches.
F. For foundation drainage, install filter fabric between the free-draining aggregate and the natural soils as indicated in geotechnical report.
G. Place aggregate in maximum 6 inch lifts, consolidating each lift.
H. Refer to Section 312323 for compaction requirements. Do not displace or damage pipe when compacting.
I. Place impervious fill over drainage pipe aggregate cover and compact.
J. Connect to storm sewer system with unperforated pipe, through installed sleeves.
K. All work shall comply with Indiana Department of Transportation Standards and Specifications.

3.4 FIELD QUALITY CONTROL
A. Request inspection prior to and immediately after placing aggregate cover over pipe.

3.5 PROTECTION
A. Protect pipe and aggregate cover from damage or displacement until backfilling operation begins.

END OF SECTION 334100
MAINTAIN FLOWLINE
FINISH GRADE OF PAVEMENT
ADJACENT PAVEMENT OR
PATCH AS NECESSARY, SEE PLANS.

12" LONG #5 DOWELS @ 24" O.C.

1/2" EXPANSION JOINT

4,000 PSI/CIP CONCRETE
R8"
R8"

EXISTING BENCH CURB ON BOTH
SIDES OF SERVICE DRIVE. TIE INTO
OVER 3' TRANSITION EACH SIDE.

HEAVY DUTY CONCRETE
PAVEMENT, REFER TO
DETAIL 3/SD4.1

MOUNTABLE CONCRETE CURB AND GUTTER
FOR CALLS IN INDIANA
CALL TOLL FREE
NEW YORK
AVE. PARKING
STRUCTURE

JENNIFER LASCH
ISSUED FOR REBID 01/16/19
CAUTION

LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE BASED UPON ABOVE GROUND EVIDENCE (INCLUDING, BUT NOT LIMITED TO, MANHOLES, INLETS, VALVES, AND MARKS MADE UPON THE GROUND BY OTHERS) AND ARE SPECULATIVE IN NATURE. THERE MAY ALSO BE OTHER EXISTING UNDERGROUND UTILITIES FOR WHICH THERE IS NO ABOVE GROUND EVIDENCE OR FOR WHICH NO ABOVE GROUND EVIDENCE WAS OBSERVED. THE EXACT LOCATIONS OF SAID EXISTING UNDERGROUND UTILITIES SHOULD BE VERIFIED BY THE CONTRACTOR PRIOR TO ANY AND ALL CONSTRUCTION.
T/SLAB
EL SEE PLAN

Grade slab see
Note 10 on Sheet S-552

Detention area
Grade slab see
Notes 17 - 20 on Sheet S-551

CIP Wall

HOLD CMU WALL 2" CLEAR OF COLUMN W/ BACKER ROD & SEALANT EA SIDE

Cont waterproofing

10" CIP Wall w/ #6 @ 12" OC EF Vert and #5 @ 10" OC EF Horiz, TYP

Free draining granular backfill

#5 @ 12" OC

PVC waterstop, TYP

Cove sealant

Client

New York Ave. Parking Structure
BSU Project # 2018 - 014.01 XP

Crip
3939 Priority Way South Drive, Suite 200
Indianapolis, IN 46240
Tel: 317.844.6777

Walker Consultants
6602 E. 75th St., Suite 210
Indianapolis, IN 46250
Tel: 317.842.6890

Loftus Engineering, Inc.
201 South Capitol Ave, Suite 310
Indianapolis, IN 46225
Tel: 317.352.5822

ISSUANCES

Drawn By

 Checked By

Project Number

Client Number

t h i n k c h a m p l i n . c o m
217 W 10th Street, Suite 100
Indianapolis, IN    46202
T 317.917.4474

Rundell Ernstberger Associates
618 East Market Street
Indianapolis, IN 46202
Tel: 317.263.0127

S-512
SECOND TIER STRIPING PLAN
THIRD TIER STRIPING PLAN

SHEET NOTES
1. REFER TO SHEET AG101 FOR GENERAL NOTES AND TYPICAL DETAILS.
2. SEE SHEET AG102 FOR TYPICAL STRIPING DIMENSIONS.

NEW YORK AVE. PARKING STRUCTURE
BSU PROJECT #
2018 - 014.01 XP

PARKING SCHEDULE

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TOP TIER STRIPING PLAN
SITE LIGHTING PLAN - BASE BID

PROPOSED PARKING GARAGE

PLANT NOTES:

1. Provide (1) underground 1" schedule 40 PVC conduit with (2) #10 AWG Cu. and (1) #10 AWG Cu. GND. to lighting relay 'LR-1' located in Electrical 112. See enlarged power plan for electrical 112 on sheet E401.

2. Provide (1) underground 1" schedule 40 PVC conduit with (2) #10 AWG Cu. and (1) #10 AWG Cu. for site light poles.

3. Remove existing site luminaire and lighting pole complete, salvage and deliver to Heath Farm located at 4313 N. Everett Rd., Muncie, IN 47306. Remove associated underground conduit and conductors complete back to existing light pole to remain.

4. Remove existing foundation complete. See site demolition drawings.

5. Existing site lighting pole and foundation to remain. Remove luminaire head and install new luminaire head per light fixture schedule on sheet E800.
ELECTRICAL SERVICE & DISTRIBUTION DIAGRAM LEGEND

- ELECTRICAL METER
- SERVICE OPERATOR ROOM
- SEPARATE ENCLOSURE
- MAIN DISTRIBUTION PANEL
- TRANSFORMER ENCLOUSE
- TRANSFORMER
- PANEL WALL PROTECTION
- CURRENT TRANSFORMER

OUTPUT 208Y/120V, 3∅, 4W
1200AF/1200AT

SEE SHEET E602 FOR ALL FEEDER SIZES.

13 SPD
12 CURRENT TRANSFORMER

14 (1) #6 AWG GND

1200AT -3P

10

200AT

15 PRIMARY 12,470V, 3

225 kVA PAD MOUNTED TRANSFORMER 'UT'

HV COMP
LV COMP

200AF -3P

(1) #2/0 AWG GND

(4) #6 AWG

(2 SETS) 3-1/2" SCHEDULE 80 PVC WITH:
BANK TO MH 10B; SEE DETAIL #6 ON SHEET E502

16 (1) 2" SCHEDULE 80 PVC WITH:
(2) 5" C & (1) 2" C IN CONCRETE DUCT

17 AUTOMATIC TRANSFER SWITCH

CIRCUIT BREAKER

FIXED MOUNTED LOW VOLTAGE INSULATED CASE

FIXED MOUNTED LOW VOLTAGE INSULATED CASE

SWITCH

CIRCUIT BREAKER

DRAW OUT LOW VOLTAGE INSULATED CASE

POTENTIAL TRANSFORMER

(1) 5" C SPARE IN CONCRETE DUCT

(4) #600 kcmil & (1) #1/0 AWG GND

(1) 5" C WITH:
(4) #6 AWG

(1) 2" C WITH:
(4) #1 AWG

(4) #6 AWG

18 LSI 100A

LSI 100A

CB 100A

2 LSIG 100A

2 100A, 3-POLE

'ATS-LS'

19 BANK; SEE DETAIL #6 ON SHEET E502

GARAGE SECOND TIER

100A

LSI

18 LSI

LSIG 100A

100A

DISC MLO

FUSE

100A

100A

FUSE

DISC

MLO

DIAGRAM NOTES

125AT -3P

200AF

(1) #6 AWG GND

200AT

120AF

200AT

120AF

200AF

200AF

5

(4) #1 AWG

(4) #6 AWG

(1) 2" C WITH:

125AT -3P

200AF

125AT -3P

200AF

125AT -3P

200AF

125AT -3P

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