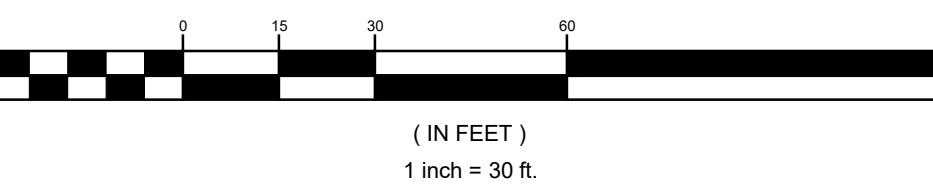


GRAPHIC SCALE



LEGAL DESCRIPTION:

PARCEL 1: THAT PART OF THE WEST 400 FEET OF THE SOUTH 544.5 FEET OF THE SOUTH 60 ACRES OF THE EAST HALF OF THE SOUTHWEST QUARTER OF SECTION 17, TOWNSHIP 36 NORTH, RANGE 12 EAST OF THE THIRD PRINCIPAL MERIDIAN, COOK COUNTY, ILLINOIS.

EXCEPT PARCEL 2: THAT PART OF THE WEST 400 FEET OF THE SOUTH 544.5 FEET OF THE SOUTH 60 ACRES OF THE EAST HALF OF THE SOUTHWEST QUARTER OF SECTION 17, TOWNSHIP 36 NORTH, RANGE 12 EAST OF THE THIRD PRINCIPAL MERIDIAN, COOK COUNTY, ILLINOIS DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHEAST CORNER OF THE SOUTHWEST QUARTER OF SAID SECTION 17; THENCE SOUTH 88 DEGREES 46 MINUTES 04 SECONDS WEST, ON THE SOUTH LINE OF SAID SOUTHWEST QUARTER, 917.11 FEET TO THE EAST LINE OF THE GRANTOR'S PARCEL FOR THE POINT OF BEGINNING; THENCE CONTINUING SOUTH 88 DEGREES 46 MINUTES 04 SECONDS WEST, ON SAID SOUTH LINE, 400.01 FEET TO THE WEST LINE OF THE GRANTOR'S PARCEL; THENCE NORTH 01 DEGREE 41 MINUTES 48 SECONDS WEST, ON SAID WEST LINE, 61.83 FEET; THENCE NORTH 88 DEGREES 14 MINUTES 45 SECONDS EAST, 400.00 FEET TO THE EAST LINE OF THE GRANTOR'S PARCEL; THENCE SOUTH 01 DEGREE 41 MINUTES 48 SECONDS EAST, ON SAID EAST LINE, 61.64 FEET TO THE POINT OF BEGINNING.

P.I.N. 27-17-301-013-0000

LEGEND

(S)	EXISTING SANITARY MANHOLE	PROPOSED LIGHT
(●)	PROPOSED SANITARY MANHOLE	— — EXISTING CONTOUR LINE
SAN	EXISTING SANITARY SEWER	~~~~ PROPOSED CONTOUR LINE
→-)	PROPOSED SANITARY SEWER	==== EXISTING CURB
(⊗)	EXISTING VALVE IN VAULT	===== PROPOSED CURB
(●)	PROPOSED VALVE IN VAULT	##### EXISTING CURB TO BE REMOVED
(⊗)	EXISTING VALVE	//////// PROPOSED HUNG CURB
(●)	PROPOSED VALVE	○ PP EXISTING POWER POLE
△	EXISTING REDUCER	☒ EXISTING TRANSFORMER
▲	PROPOSED REDUCER	ⓔ EXISTING ELECTRIC MANHOLE
☿	EXISTING HYDRANT	—E— EXISTING ELECTRIC CABLE
☿	PROPOSED HYDRANT	△ EXISTING TELEPHONE PEDESTAL
—W	EXISTING WATERMAIN	⌚ EXISTING TELEPHONE MANHOLE
—PW	PROPOSED WATERMAIN	—T— EXISTING TELEPHONE CABLE
(mh)	EXISTING STORM MANHOLE	⌚ EXISTING TRAFFIC SIGNAL
(●)	PROPOSED STORM MANHOLE	[hh] EXISTING HAND HOLE
(cb)	EXISTING CATCH BASIN	GV EXISTING GAS VALVE
(●)	PROPOSED CATCH BASIN	—G— EXISTING GAS MAIN
(I)	EXISTING INLET	—C— EXISTING CABLE T.V.
(⊗)	PROPOSED CIRCULAR INLET	● EXISTING BORING LOCATION
■	PROPOSED INLET	—○— EXISTING SIGN
—ST	EXISTING STORM SEWER	—x—x— EXISTING FENCE LINE
→—→-	PROPOSED STORM SEWER	○○○ EXISTING DECIDUOUS TREE
—ST—C	EXISTING CULVERT	●●● EXISTING EVERGREEN
→—→C	PROPOSED CULVERT	○○○○ EXISTING BUSH/HEDGE
(○)	EXISTING LIGHT	■■■■ EXISTING WETLAND

BENCHMARK:

SQUARE CUT IN TOP OF FLAG POLE BASE OPPOSITE AND SOUTH OF THE MAIN BMW BUILDING ENTRANCE ON SOUTH SIDE OF BUILDING.

ELEVATION: 711.96 (NAVD 88)

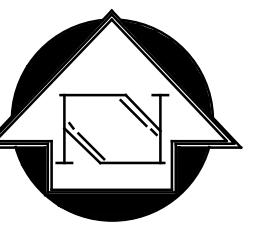
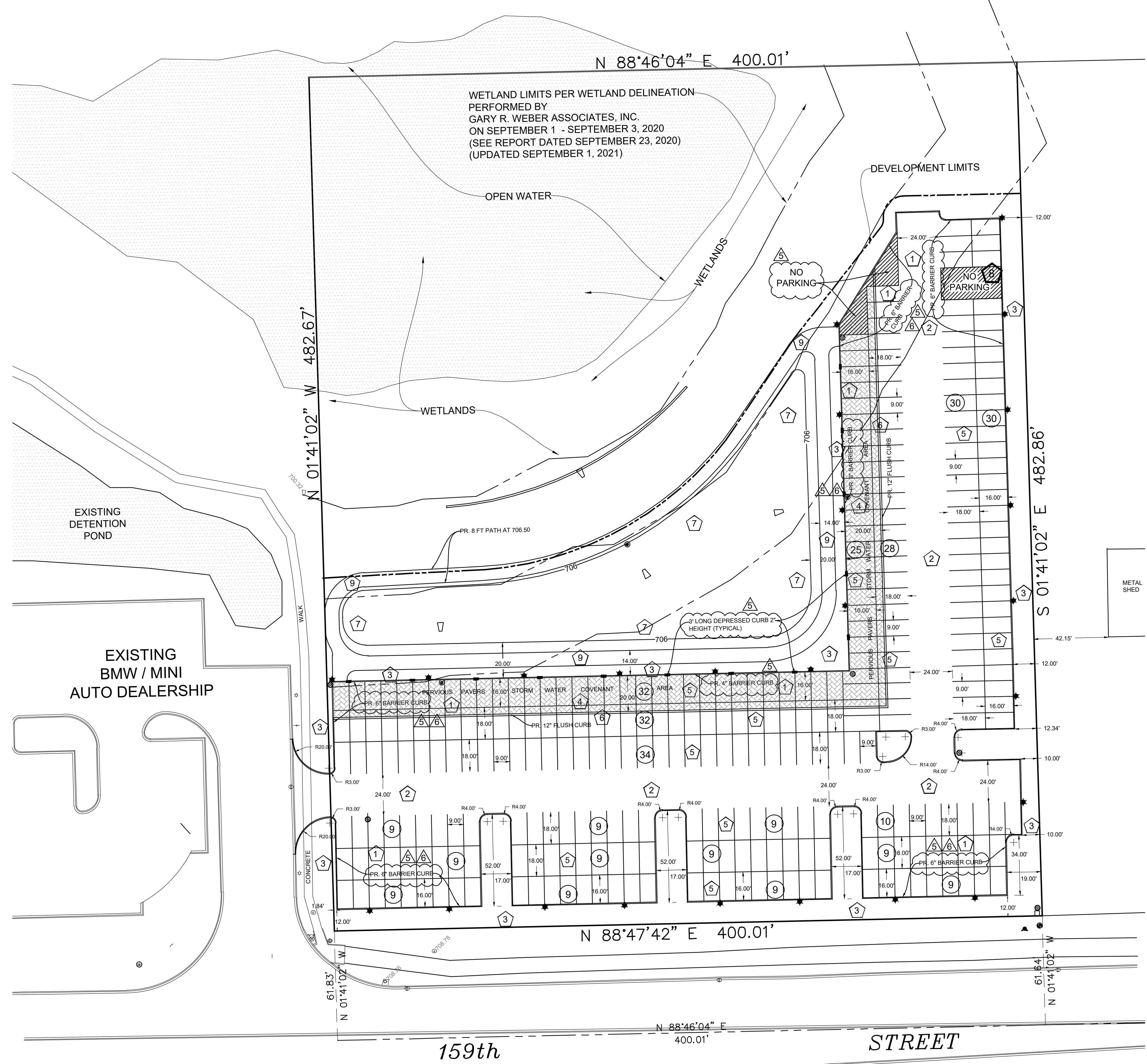
Joseph A. Schudt & Associates
9455 ENTERPRISE DRIVE MOKENA, IL 60448
PHONE: 708-720-1000 www.jaseng.com FAX: 708-720-1065

(184-001172)

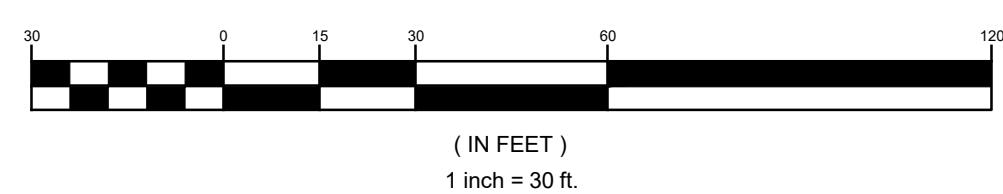
REVISED	12	12
 2	7-07-21	
 3	8-18-21	
COPYRIGHT © 2021 JOSEPH A. SCHUDT & ASSOCIATES ALL RIGHTS RESERVED		
use or reproduction of this document or the drawings, or the use of the design approach or Concepts described in this document and attached drawings, in whole or in part by any means whatsoever is strictly prohibited except with written consent of JOSEPH A. SCHUDT & ASSOCIATES		

ZEIGLER AUTO GROUP
BMW PARKING LOT EXPANSION
ORLAND PARK, IL
EXISTING SURVEY & TOPOGRAPHY

Date: 10-27-20
Scale: 1" = 30'
File Name: 10-27-20-TRAILER-PROPS-AND-DOORS
Drawn: TMF
Checked: DWO
Sheet: 2 OF 12
Project No.: 15-000

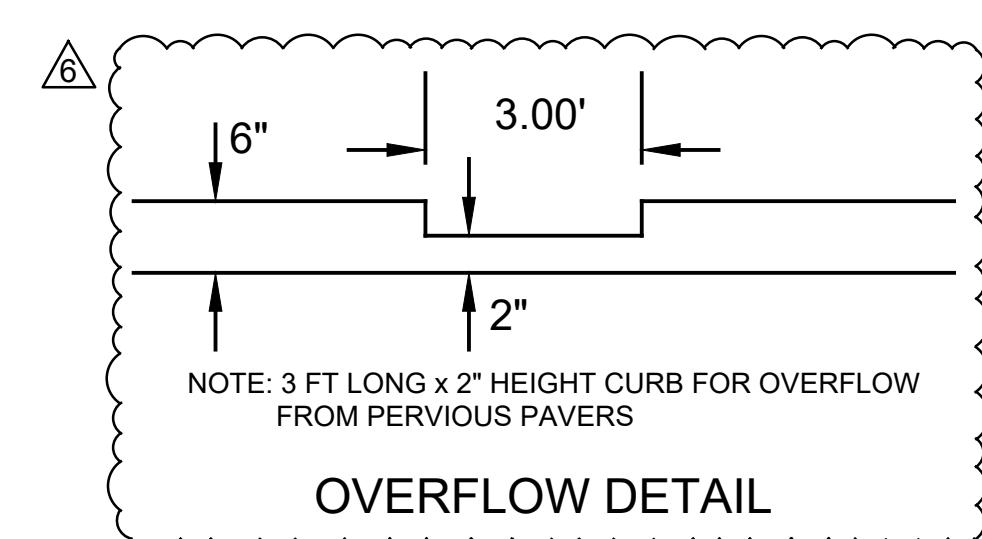


GRAPHIC SCALE



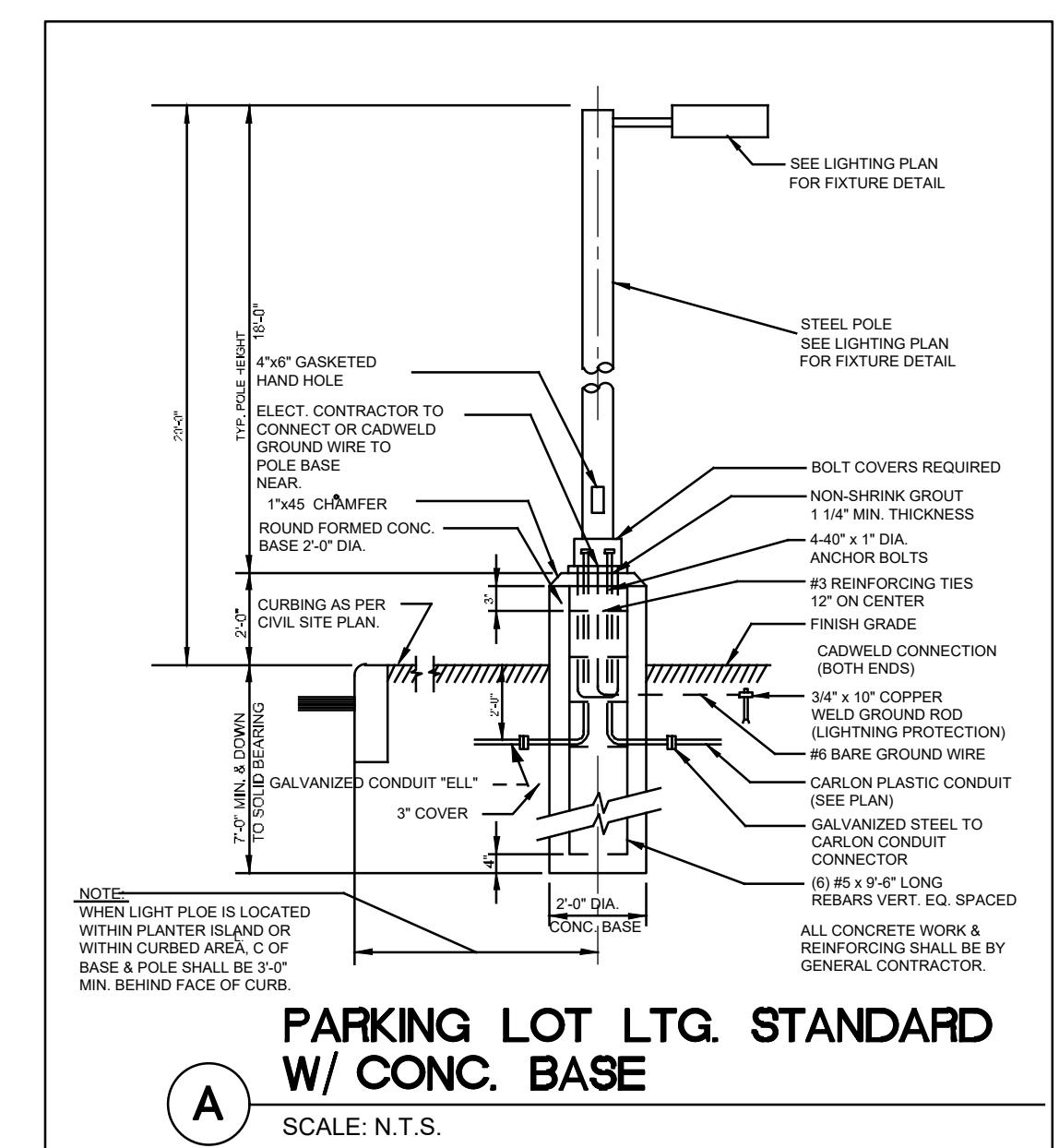
LEGEND:

- 1 PROPOSED 6" CONCRETE BARRIER CURB
- 2 PROPOSED BITUMINOUS ASPHALT PAVEMENT
(10" AGG. BASE/ 2 1/4" BITUMINOUS BINDER / 1 1/2"
BITUMINOUS SURFACE)
- 3 PROPOSED NEW LANDSCAPE AREA
- 4 PROPOSED PERVIOUS STORM WATER COVENANT AREA.
- 5. VEHICLE STORAGE PARKING (9'x18')
- 6 PROPOSED 12" WIDE x 15" DEEP FLUSH BORDER CURB
- 7 PROPOSED DETENTION BASIN
- 8 NO PARKING AREA FOR VEHICLE TURN AROUND
- 9 PROPOSED 8' WIDE MAINTENANCE PATH



OVERFLOW DETAIL

OVERFLOW DETAIL



PARKING LOT LTG. STANDARD W/ CONC. BASE

A SCALENTS

SCALE. N.T.S.

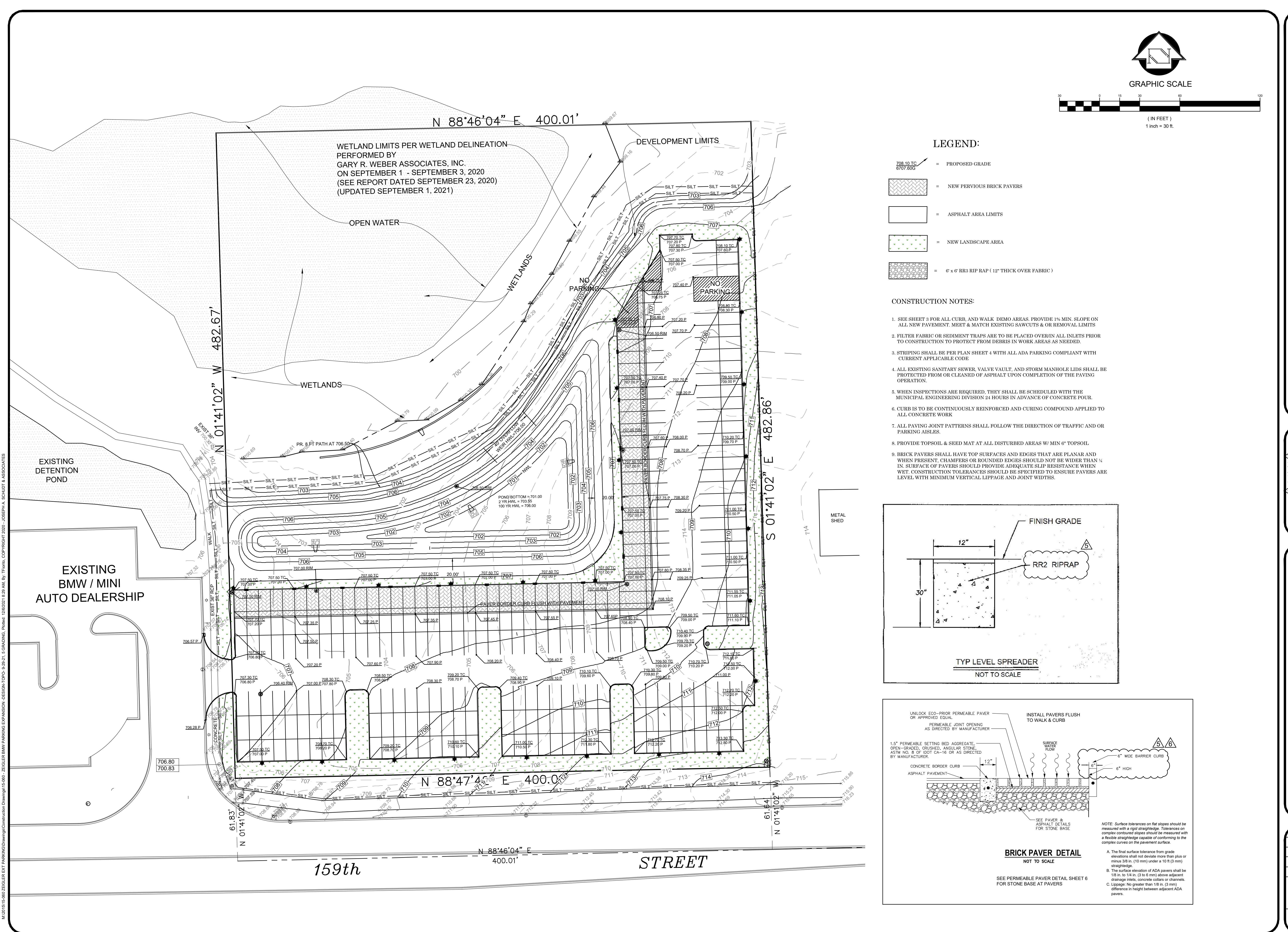
A large, bold, stylized 'AS' logo is positioned at the top of the page. Below the 'AS', a smaller rectangular box contains the text '(184-001172)'.

Joseph A. Schudt & Associates
9455 ENTERPRISE DRIVE MOKENA, IL 60448
PHONE: 708-720-1000 www.jaseng.com FAX: 708-720-1065

CIVIL ENGINEERING LAND SURVEYING ENVIRONMENTAL LAND PLANNING GPS SERVICES

ZEIGLER AUTO GROUP
BMW PARKING LOT EXPANSION
ORLAND PARK, IL
SITE GEOMETRIC PLAN

Date: 10-27-20
Scale: 1" = 30'
File Name: 10-27-20-1
Drawn: TMF
Checked: DWO
Sheet: 4 OF 12
Project No.: 15-060



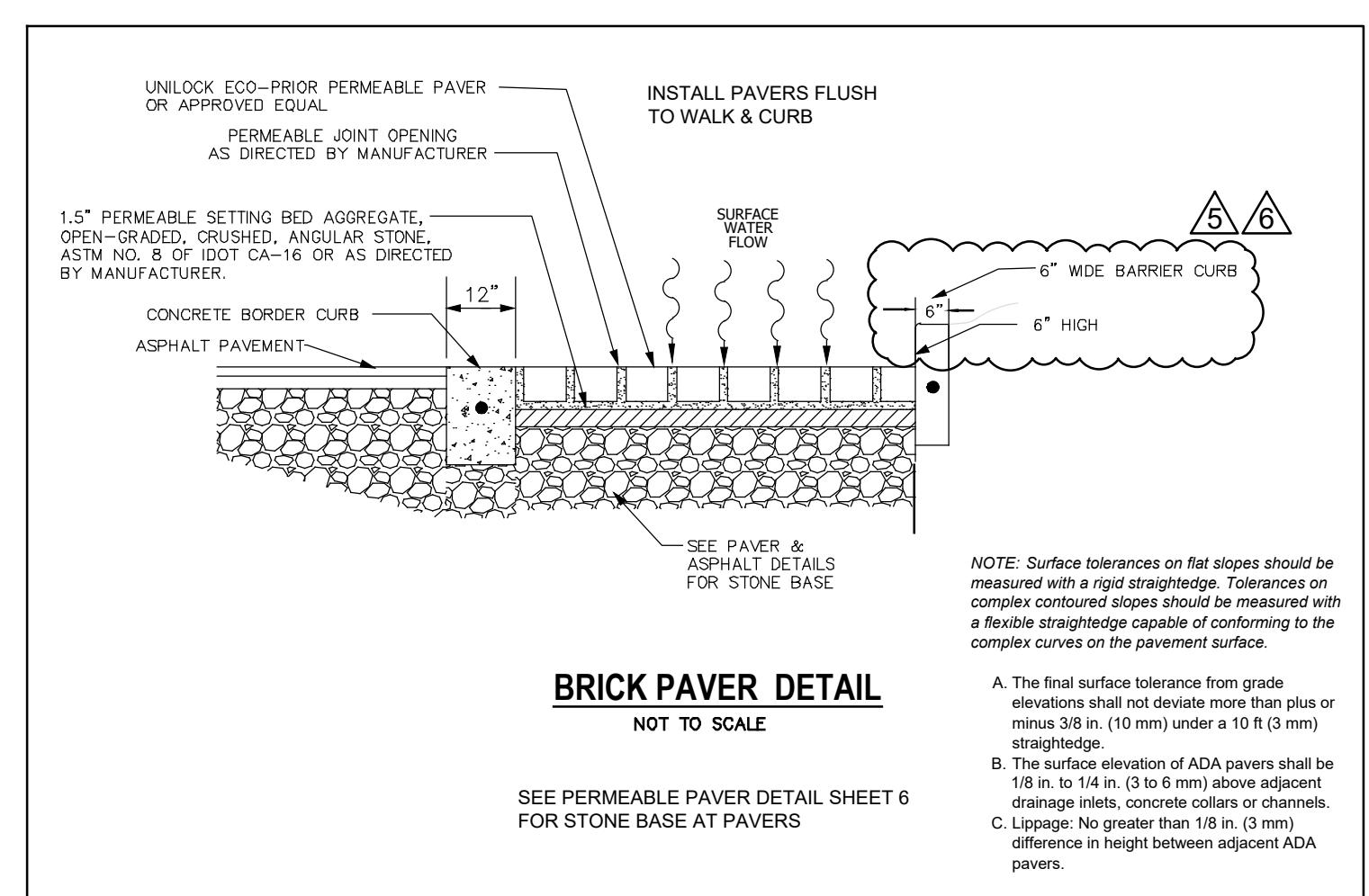
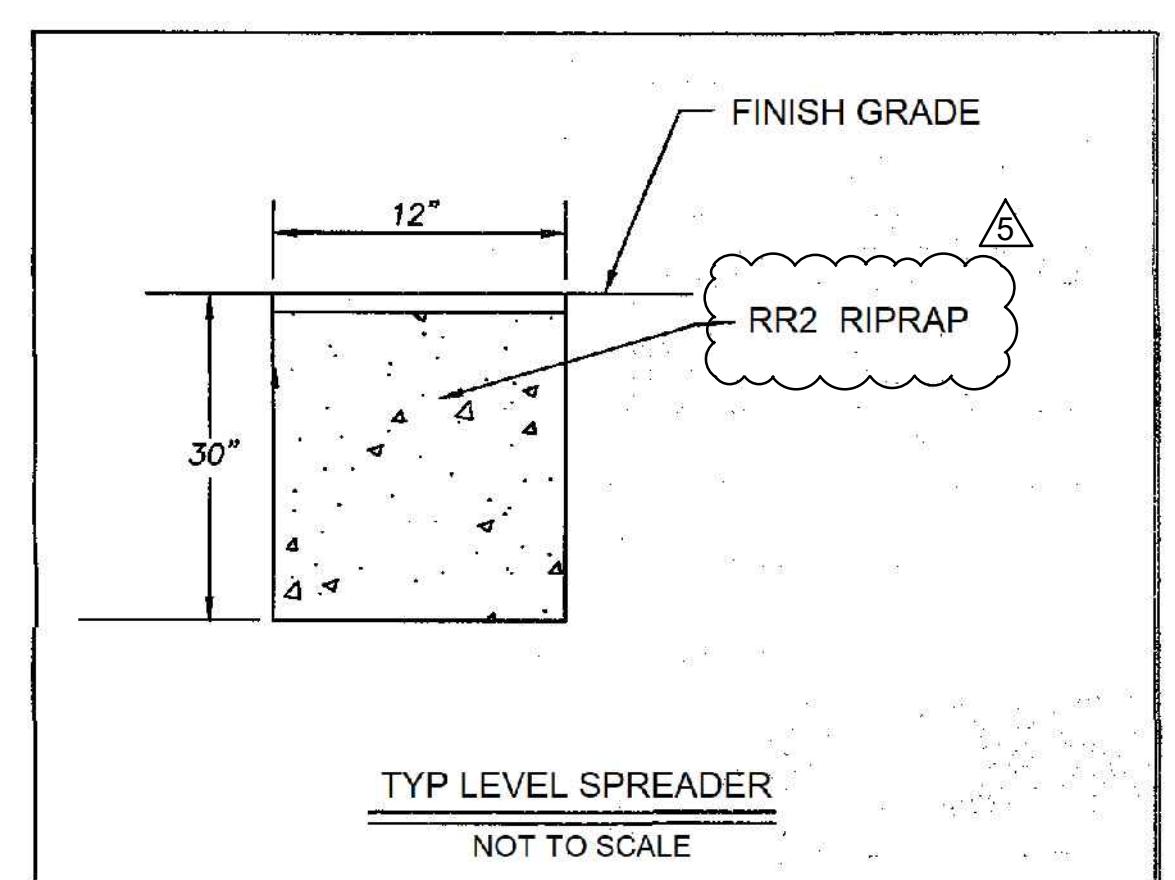
ZEIGLER AUTO GROUP
BMW PARKING LOT EXPANSION
ORLAND PARK, IL

SITE GRADING PLAN

Date: 10-27-20
Scale: 1" = 30'
File Name: 15-060-ZEIGLER EXIST PARKING
Drawn: TMF
Checked: DWO
Sheet:
5 OF 12
Project No.: 15-060

Joseph A. Schudt & Associates
9455 ENTERPRISE DRIVE, MOKENA, IL 60448
PHONE: 708-720-1000 www.jaseng.com FAX: 708-720-1065
CIVIL ENGINEERING LAND SURVEYING ENVIRONMENTAL LAND PLANNING GPS SERVICES
(184-001172)

REVISIONS: 5-12-21 15-060-1-21
2-7-07-21 15-11-21
3-8-18-21 12-06-21
COPYRIGHT © 2021
JOSEPH A. SCHUDT & ASSOCIATES
Any unauthorized reproduction or the use of the document or the attached drawings, or the use of the design approach or engineering concept contained therein, in whole or in part, or the entire drawing, is strictly prohibited except with the express written consent of the owner.



STORM WATER POLLUTION PREVENTION PLAN

The following plan is established and incorporated in the project to direct the contractor in the placement of temporary erosion control systems and to provide a storm sewer water pollution prevention plan for compliance under NPDES.

The purpose of this plan is to minimize erosion within the construction site and to limit sediments from leaving the construction site by utilizing proper temporary erosion control systems and providing ground cover within a reasonable amount of time.

Certain erosion control facilities shall be installed by the contractor at the beginning of construction. Other items shall be installed by the contractor as directed by the Engineer on a case by case situation depending on the contractor's sequence of activities, time of year, and expected weather conditions.

The contractor shall install permanent erosion control systems and seeding within a time frame specified herein and as directed by the Engineer, therefore minimizing the amount of area susceptible to erosion and reducing the amount of temporary seeding. The Engineer will determine if any temporary erosion control systems shown in the plan can be deleted and if any additional temporary erosion control systems, which may not be included in this plan, shall be added. The contractor shall perform all work as directed by the Engineer and as shown in Standard 280001.

Section 280. Temporary erosion control, of the standard specifications additionally supplements this plan.

SITE DESCRIPTION & DESCRIPTION OF CONSTRUCTION ACTIVITY:

- The project is located North of 159th Street and East of Wolf Road in Orland Park, IL. The site disturbance acreage is 2.63 acres.
- Construction includes earthwork, parking improvements, and storm sewer improvements for a proposed site.
- The project is not within the 100-year Floodplain limits.

DESCRIPTION OF INTENDED SEQUENCE FOR MAJOR CONSTRUCTION ACTIVITIES WHICH WILL DISTURB SOILS FOR MAJOR PORTION OF THE CONSTRUCTION SITE:

Erosion control silt fencing shall be in placed prior to earthwork activities.

Site shall be cleared. Topsoil will be remove and graded as necessary, with all proposed roads graded to roughly 1-foot below final elevation on plans.

After completion of storm sewer construction, storm sewer inlet protection shall be placed at each open-grade structure.

Earthwork construction will be completed and detention side slopes and other landscape areas shall be topsoiled and seeded & covered with erosion control blanket.

Concrete curb & gutter, Pervious Paver and Bituminous areas shall be constructed.

AREA OF CONSTRUCTION SITE:

The total area of the construction site is estimated to be 2.63 acres by which 2.63 acres will be disturbed by excavation, grading, and other activities. Of this 2.63 acres, 0.15 acres are construction within the Public R.O.W.

OTHER REPORTS, STUDIES AND PLANS, WHICH AID IN THE DEVELOPMENT OF THE STORM WATER POLLUTION PREVENTION PLAN AS REFERENCED DOCUMENTS:

- Information of the soils and terrain within the site was obtained from topographic surveys and soil borings that were utilized for the development of the proposed temporary erosion control systems.
- Project plan documents, specifications and special provisions, and plan drawings indicating drainage patterns and approximate slopes anticipated after grading activities were utilized for the proposed placement of the temporary erosion control systems.

DRAINAGE TRIBUTARIES AND SENSITIVE AREAS RECEIVING RUNOFF FROM THIS CONSTRUCTION SITE:

1. The site shall drain into proposed stormwater detention ponds by means of a proposed storm sewer system, and overland flow. The stormwater detention system will reduce the peak stormwater runoff before discharging into existing Village drainageway and storm sewer system.

CONTROLS, EROSION CONTROLS AND SEDIMENT CONTROL:

- The drawings, specifications and special provisions will ensure that existing vegetation is preserved where attainable and disturbed portions of the site will be stabilized. Stabilization practices include temporary seeding, permanent seeding, mulching, protection of trees, preservation of native vegetation, and other appropriate measures as directed by the Engineer. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 7 days after the construction activity in that portion of the site has temporarily or permanently ceased.
 - Areas of existing vegetation, wood and grasslands, outside the proposed construction limits shall be identified by the Engineer for preserving and shall be protected from construction activities.
 - Dead, diseased, or unsuitable vegetation within the site shall be removed as directed by the Engineer, along with required tree removal.
 - As soon as reasonable access is available to all locations where water drains away from the project, temporary perimeter erosion barrier shall be installed as called out in this plan and directed by the Engineer.
 - Bare and sparsely vegetated ground in high erodible areas as determined by the Engineer shall be temporarily seeded at the beginning of construction where no construction activities are expected within seven (7) days.
 - Immediately after tree removal is completed, areas which are highly erodible as determined by the Engineer, shall be temporarily seeded when no construction activities are expected within seven (7) days.
- Establishment of these temporary erosion control measures will have additional benefits to the project. desirable grass seed will become established in these areas and will spread seeds onto the construction site until permanent seeding/mowing and over seeding can be completed.
- The owner and Village of Orland Park is responsible for conducting site visits and verifying that the practices are working properly and determine if additional practices are needed for better soil erosion and sediment control. If additional practices are deemed necessary by the Village the contractor will implement the practice in a timely manner.

SOIL PROTECTION CHART

STABILIZATION	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.
PERMANENT SEEDING				A		*	*	*				
DORMANT SEEDING										B		
TEMPORARY SEEDING											C	
SODDING											D	
MULCHING											E**	

- KENTUCKY BLUEGRASS 90 LBS./AC. MIXED WITH PERENNIAL RYEGRASS 30 LBS./AC.
- KENTUCKY BLUEGRASS 135 LBS./AC. MIXED WITH PERENNIAL RYEGRASS 65 LBS./AC. + 2 TONS STRAW MULCH PER ACRE.
- SPRING OATS 100 LBS./AC.
- D. WHEAT OR CEREAL RYE 150 LBS./AC.
- E. SOD.
- F. STRAW MULCH 2 TONS/AC.

* IRRIGATION NEEDED DURING JUNE, JULY AND SEPT.

** IRRIGATION NEEDED FOR 2-3 WEEKS AFTER SODDING.

DESCRIPTION OF STABILIZATION PRACTICES DURING CONSTRUCTION:

- During construction, areas outside the construction limits as outlined previously herein shall be protected. The contractor shall not use this area for staging, parking of vehicles of construction equipment, storage of materials or other construction related activities.
- Within the construction limits, areas which may be susceptible to erosion as determined by the Engineer shall remain undisturbed until full scale construction is underway to prevent unnecessary soil erosion.
- As construction proceeds, the contractor shall institute the following as directed by the Engineer.
 - Place temporary erosion control facilities at locations shown on the plans.
 - Temporarily seed erodible bare earth on a weekly basis to minimize the amount of erodible surface area within the contract limits.
 - Provide temporary erosion control systems.
 - Continue building up the embankment to the proposed grade while, at the same time, placing permanent erosion control final shaping to the slopes.
- Excavated areas and embankment shall be permanently seeded immediately after final grading. If not, they shall be temporarily seeded if no construction activity in the area is planned for seven (7) days.
- Construction equipment shall be stored and fueled only at designated locations. All necessary measures shall be taken to contain any fuel or other pollutant in accordance with EPA water quality regulations. Leaking equipment or supplies shall be immediately repaired or removed from the site.
- The contractor shall inspect the project daily during construction activities. Inspection shall also be done weekly and after rains of 1/2-inch or greater or equivalent snowfall and during the winter shutdown period. The project shall additionally be inspected by the construction field Engineer on a bi-weekly basis to determine that erosion control efforts are in place and effective and if other erosion control work is necessary.
- Sediment collected during construction of the various temporary erosion control systems shall be disposed of on the site on a regular basis as directed by the Engineer. The cost of this maintenance shall be included in the unit bid price for earth excavation for erosion control.
- The temporary erosion control systems shall be removed, as directed by the Engineer, after use is no longer needed or no longer functioning.

DESCRIPTION OF STRUCTURAL PRACTICES AFTER FINAL GRADING:

- Temporary erosion control systems shall be left in place with proper maintenance until permanent erosion control is in place and working properly and all proposed turf areas sodded and established.
- Once permanent erosion control systems as proposed in the plans are functional and established, temporary items shall be removed, cleaned up, and disturbed turf reseeded.
- Upon completion of the site improvements, permanent landscaping features, including sod, will be established.
- Sod shall be placed after completion and inspection of all public improvements.

STORM WATER POLLUTION PREVENTION PLAN CERTIFICATES:

The following certificates shall be executed & provided to the Village of Orland Park and Engineer with a copy at the job site:

- Contractor Certification Statement: "I certify under penalty of law that I understand the terms and conditions of the general National Pollutant Discharge Elimination System (NPDES) permit (ILR-10) that authorizes the storm water discharges associated with activity from the construction site identifies as part of this certification."

By: Contractor

- Owner Certification Statement: "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

By: Owner

The Village of Orland Park requires compliance with NPDES Phase II program. As such, all developments shall provide to the extent possible, construction site run-off control and illicit discharge prevention and elimination.

- The owner is responsible for submitting the Notice of Intent (NOI) to the IEPA after the Storm Water Pollution Prevention Plan (SWPPP) is complete. The contractor is responsible for insuring that the NOI is postmarked at least 30 days before commencement of any work on site.
- Prior to commencement of construction, the owner shall provide written notification to the IEPA of completion of the SWPPP and that said plan is available at the site.
- The contractor is responsible for having the SWPPP on site at all times.
- Inspection of controls will be completed by the owner at least once every 7 days and within 24 hours of a storm 0.5" or greater.
- An Incident of Non-Compliance (ION) must be completed and submitted by the owner to the IEPA and copied to the Village if, at any time, an erosion or sediment control device fails.
- A Notice of Termination (NOT) shall be completed by the owner in compliance with NPDES Phase II requirements when all permanent erosion control measures are in place with a 70% establishment rate of vegetation. The NOT shall be sent to the IEPA and the Village.
- The contractor shall take the necessary steps to control waste such as discarded building materials, concrete truck washout, chemicals, litter and sanitary waste at the construction site that may cause adverse impacts to water quality.

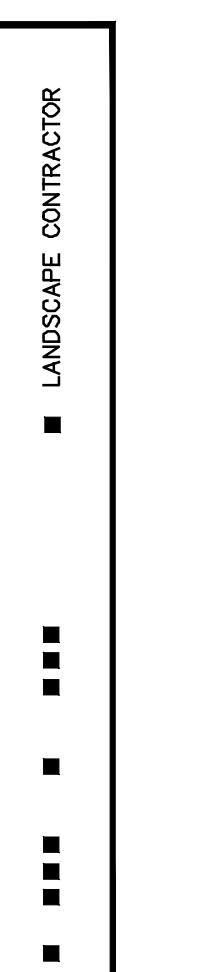
MAINTENANCE AFTER CONSTRUCTION:

Construction is complete after acceptance by the municipality. Maintenance up to this date will be by the contractor.

INSPECTION AND MAINTENANCE PLAN FOR STORMWATER MANAGEMENT STRUCTURES (BMPS)	
INSPECTION SCHEDULE	CORRECTIVE ACTIONS
VEGETATED AREAS	Annually early spring and after heavy rains Inspect all slopes and embankments and replant areas of bare soil or with sparse growth Armor rill erosion areas with riprap or divert the runoff to a stable area Inspect and repair down-slope of all spreaders and turn-outs for erosion Mow vegetation as specified for the area
DITCHES, SWALES AND OPEN STORMWATER CHANNELS	Annually spring and fall and after heavy rains Remove obstructions, sediments or debris from ditches, swales and other open channels Repair any erosion of the ditch lining Mow vegetated ditches
CULVERTS	Spring and late fall and after heavy rains Remove accumulated sediments and debris at the inlet, outlet, or within the conduit Repair any obstruction to flow
CATCHBASINS	Annually in the spring Remove sediments from the bottom of the basin and inlet grates Remove floating debris and oils (using oil absorbent pads) from any trap
ROADWAYS AND PARKING AREAS	Annually in the spring or as needed Clear and remove accumulated winter sand in parking lots and along roadways Grade road shoulders and remove accumulated winter sand Grade gravel roads and gravel shoulders Clean-out the sediment within water bars or open-top culverts Ensure that stormwater runoff is not impeded by false ditches of sediment in the shoulder
RESOURCE AND TREATMENT BUFFERS	Annually in the spring Inspect buffers for evidence of erosion, concentrated flow, or encroachment by development Manage the buffer's vegetation with the requirements in any deed restrictions Repair any sign of erosion within a buffer Inspect and repair down-slope of all spreaders and turn-outs for erosion Install more level spreaders, or ditch turn-outs if needed for a better distribution of flow Clean-out any accumulation of sediment within the spreader bays or turnout pools Mow non-wooded buffers no shorter than six inches and less than three times per year
WETPONDS AND DETENTION BASINS	Annually in fall and after heavy rains Inspect the embankments for settlement, slope erosion, piping, and slumping Mow the embankment to control woody vegetation Inspect the outlet structure for broken seals, obstructed orifices, and plugged trash racks Remove and dispose of sediments and debris within the control structure
FILTRATION AND INFILTRATION BASINS	Annually in the spring and late fall Clean the basin of debris, sediment and hydrocarbons Provide for the removal and disposal of accumulated sediments within the basin Renew the basin media if it fails to drain within 72 hours after a one inch rainfall event Till, seed and mulch the basin if vegetation is sparse Repair riprap where underlying filter fabric or gravel is showing or where stones have dislodged
PROPRIETARY DEVICES	As specified by manufacturer Contract with a third-party for inspection and maintenance
OTHER PRACTICES	As specified for devices Follow the manufacturer's plan for cleaning of devices
PERVIOUS PAVER AREA	Annually in the spring Clear and remove accumulated winter sand in parking lots and along roadways Sweep pavement to remove sediment Vacuum sweep the pavement to remove sediment and prevent clogs
	Monthly Remove debris such as grass clippings, sediment, trash and leaves.

CONSTRUCTION ACTIVITY SEQUENCING:

- Erect perimeter silt fence. NOVEMBER 2021
- Construct stabilized construction entrance. NOVEMBER 2021
- Strip topsoil from site. NOVEMBER 2021
- Mass grade site. NOVEMBER 2021
- Erect interior silt fence and repair re-establish perimeter silt fence. ONGOING
- Construct and backfill new curbs. NOVEMBER / DECEMBER 2021
- Provide seeding and erosion control blanket in Detention Basin, and slope areas. NOVEMBER / DECEMBER 2021
- Establish seeding on regraded area. NOVEMBER / DECEMBER 2021
- Install/construct Storm Sewer System including inlet protection excavated drains and end section rip rap protection. NOVEMBER / DECEMBER 2021 / SPRING 2022
- Construct new pavement. DECEMBER 2021 / SPRING 2022
- Install final landscaping. SPRING 2022



NOTE: PROVIDE TEMPORARY SEEDING FOR ALL DISTURBED PARKWAYS, EASEMENTS, DETENTION PONDS ETC. TO BE LEFT LONGER THAN 7 DAYS BEFORE PERMANENT SEEDING/FINAL LANDSCAPING IS TO OCCUR.

- INSTAL. SEDIMENT CONTROL MEASURES: VS. VEGETATIVE CHANNEL BF. BARRIER FILTER
- STABILIZED CONSTRUCTION ENTRANCE
- GRADE SITE/STOCKPILE TOPSOIL
- PRESERVE AND PROTECT EXISTING
- TEMPORARY VEGETATIVE STABILIZATION OF CONTROL MEASURES: TS. TEMPORARY SEEDING VF. VEGETATIVE FILTER M. MULCHING
- EGRESS/INGRESS COVER ON ALL AREAS TO BE EXPOSED LONGER THAN 7 DAYS: TS. TEMPORARY SEEDING
- PERMANENT VEGETATIVE STABILIZATION OF ALL EXPOSED AREAS WITH 7 DAYS OF: PS. PERMANENT SEEDING
- PERMANENT LANDSCAPING
- INSTALL PERMANENT LANDSCAPING & REMOVE TEMPORARY EROSION CONTROL
- PERFORM CONTINUING MAINTENANCE.

Construction Specification -Pollution Control & Soil Erosion & Sediment Control

1. Scope
The work consists of installing measures or performing work to control erosion and minimize the production of sediment and other pollutants to water and air from construction activities.

2. Material
All material furnished shall meet the requirements of the material specifications listed in this specification.

3. Erosion and sediment control measures and works
The measures and work shall include, but are not limited to, the following:

Soil erosion activities—The excavation and moving of soil materials shall be scheduled to minimize the size of areas disturbed and unprotected from erosion for the shortest reasonable time. **Seedling**—Seeding to prevent erosion on disturbed areas shall occur as soon as reasonably possible following completion of that earthwork activity.

Mulching—Mulching to provide temporary protection of the soil surface from erosion.

Diversion—Diversion to divert water from work areas and to collect water from work areas for treatment and safe discharge. The work areas shall be restored to their original condition when the diversion is no longer required or when permanent measures are installed.

Streams crossings—Culverts or bridges where equipment must cross streams. They are temporary and shall be removed and the area restored to its near original condition when the crossings are no longer required when permanent measures are installed.

Sediment basins—Sediment basins collect, settle, and eliminate sediment from eroding areas from impeded streams and collect water below the construction site(s). These basins are temporary and shall be removed and the area restored to its original condition when they are no longer required or when permanent measures are installed.

Sediment filters—Straw bales or geotextile sediment fences trap sediment from areas of limited runoff. Sediment filters shall be properly anchored to prevent erosion under or around them. These filters are temporary and shall be removed and the area restored to its original condition when they are no longer required or when permanent measures are installed.

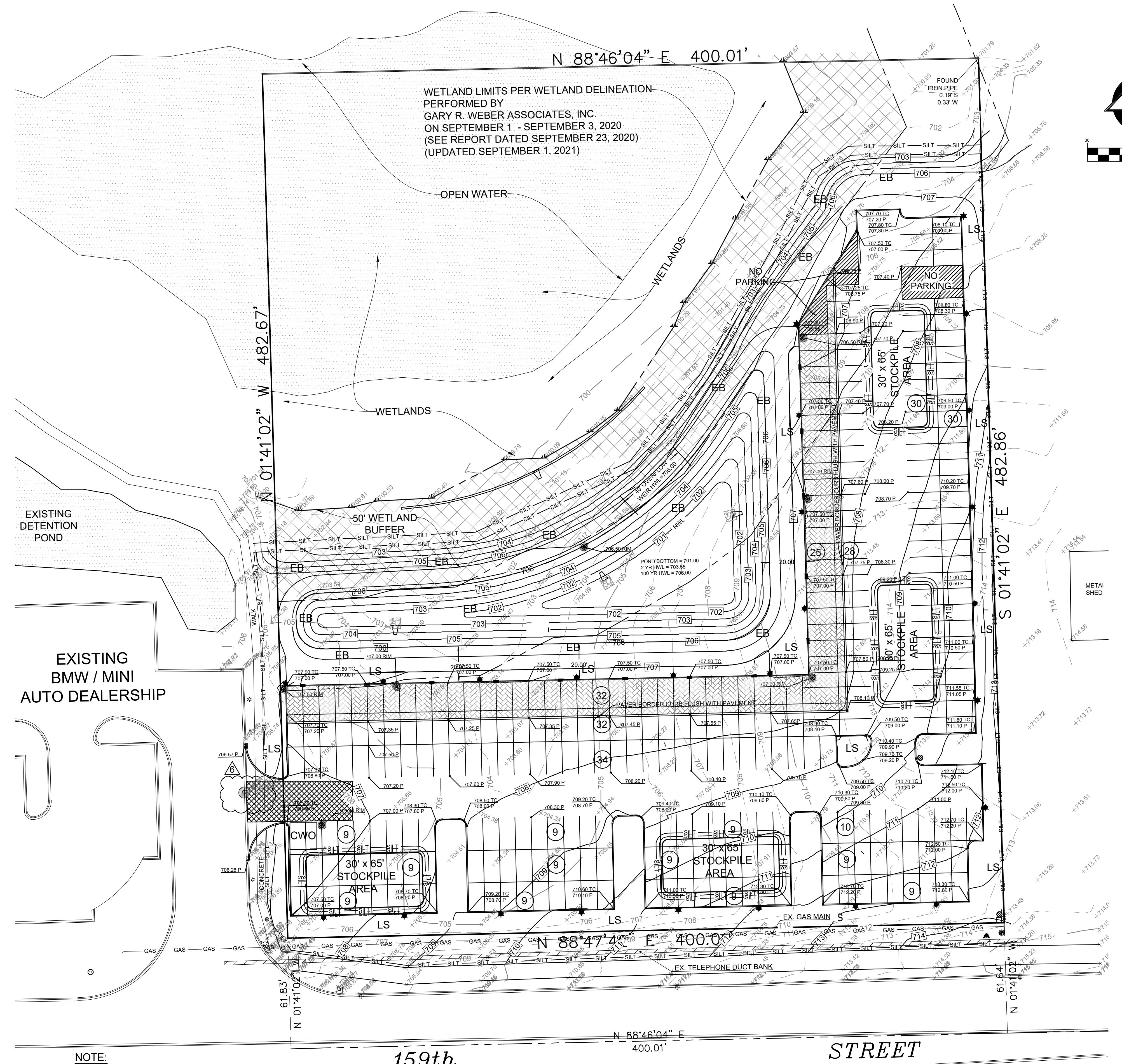
Waterways—Waterways for the safe disposal of runoff from fields, diversions, and other structures or measures. These works are temporary and shall be removed and the area restored to its original condition when they are no longer required or when permanent measures are installed.

Other—Additional protection measures as specified in section 8 of this specification or required by Federal, State, or local government.

4. Chemical pollution

The contractor shall provide watertight tanks or barrels or construct a sump sealed with plastic sheets to dispose of chemical pollutants, such as drained lubricating or transmission fluids, grease, concrete mixer washwater, or asphalt, produced as by-products of the construction activities. At the completion of the construction activities, the contractor shall be responsible for the removal and disposal of these materials.

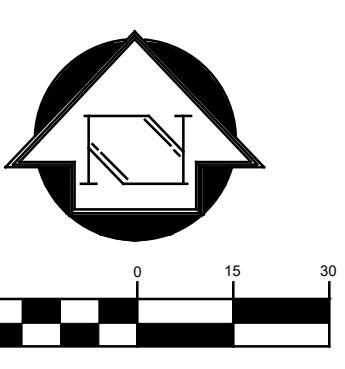
All chemical pollutants shall be conducted without causing pollution. Sanitary facilities, such as chemical toilets, or septic tanks shall not be located next



M:\\1015\\15-060 ZEIGLER EXT PARKING\\Drawings\\Construction Drawings\\BMW PARKING EXPANSION -DESIGN-TOPO- 9-29-21, 8 EROS, Plotted: 12/6/2021 8:29 AM, By: TFlorito, COPYRIGHT 2020 - JOSEPH A. SCHUDT & ASSOCIATES

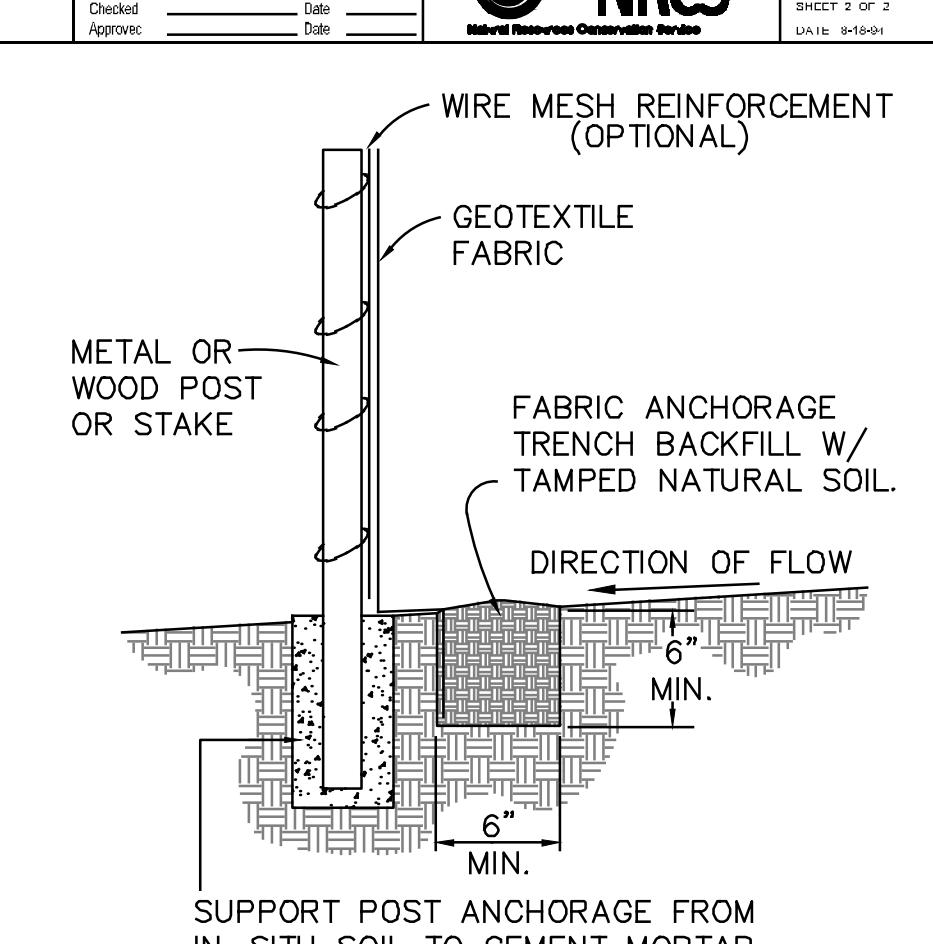
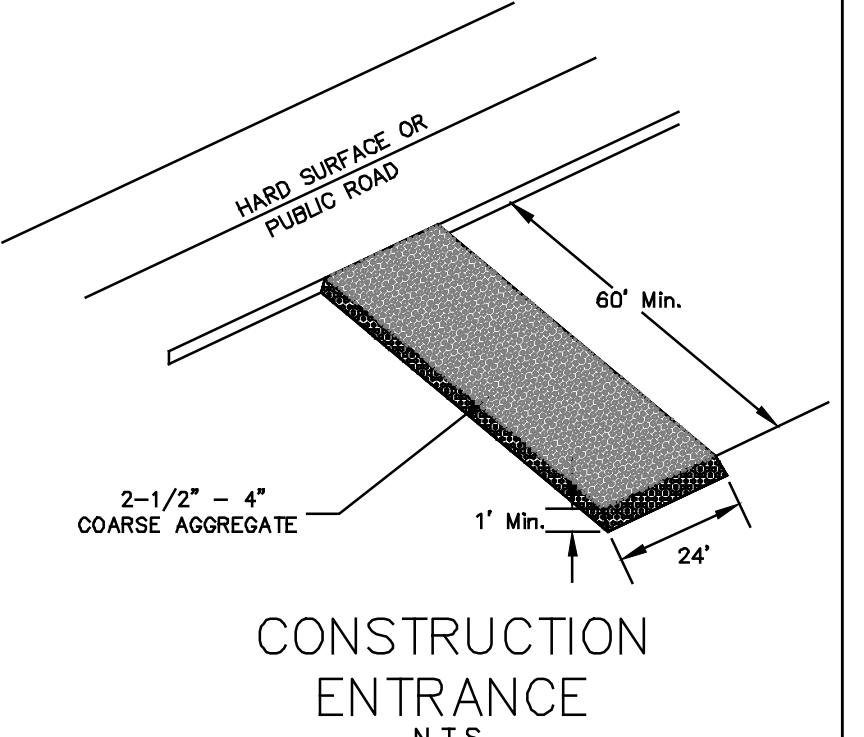
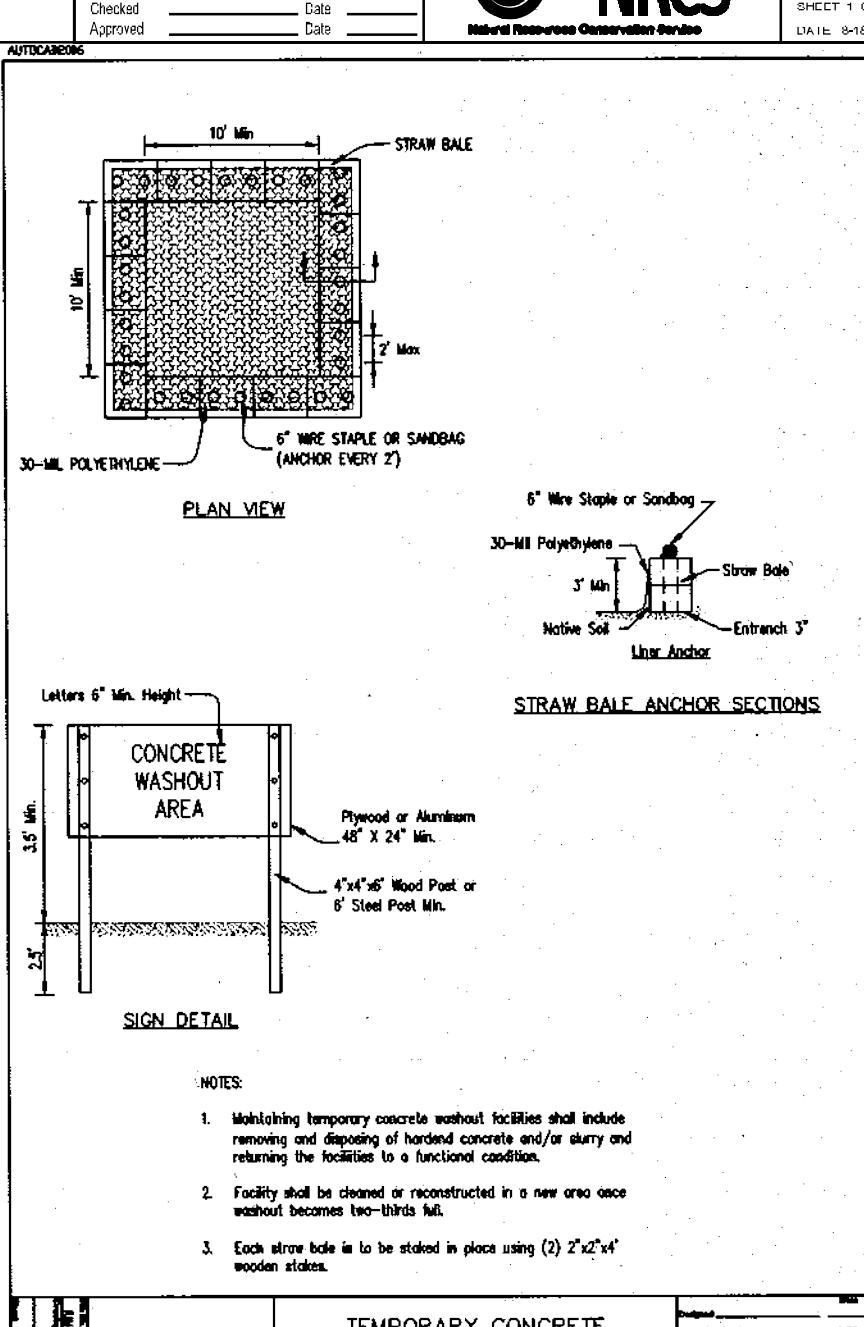
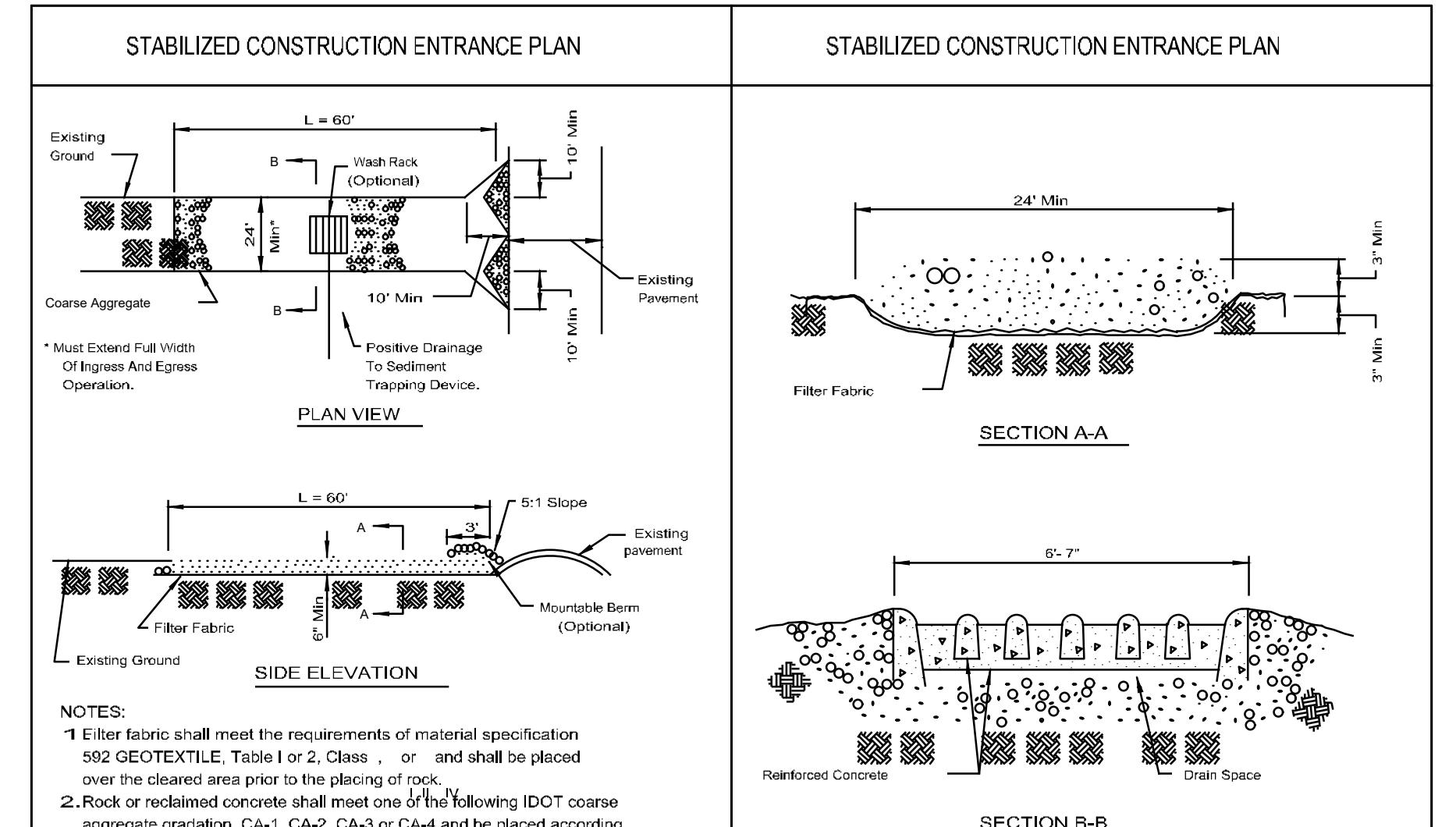
NOTE:

-  STABILIZED CONSTRUCTION ENTRANCE
-  DRAINAGE STRUCTURE INLET FILTER
-  SILT FENCE LOCATION
-  CONCRETE WASHOUT
- LS LANDSCAPE AREA
- EB EROSION BLANKET

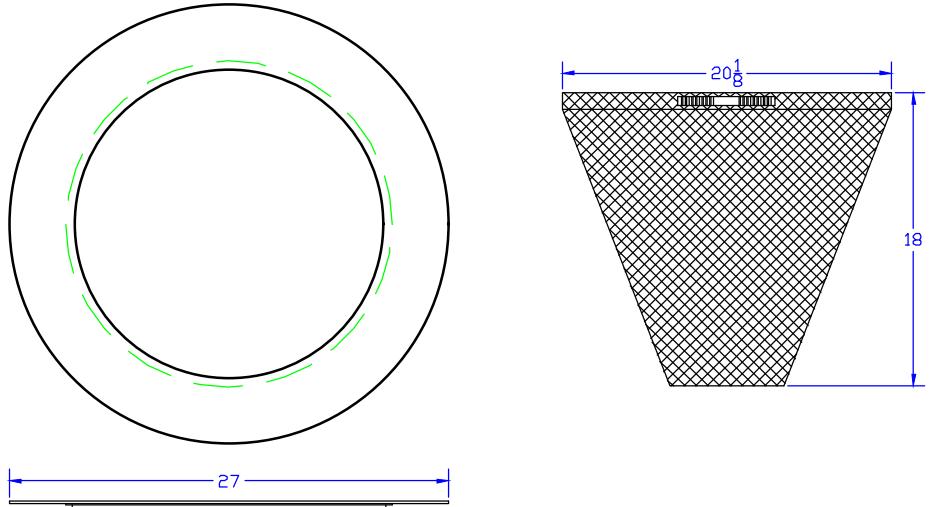


GRADING NOTES:

1. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE PLACE PRIOR TO START OF CONSTRUCTION.
2. EARTHWORK CONTRACTOR SHALL MAINTAIN PROPER SITE DRAINAGE DURING CONSTRUCTION.
3. EARTHWORK CONTRACTOR IS RESPONSIBLE FOR DUST CONTROL.
4. EARTHWORK CONTRACTOR IS RESPONSIBLE FOR REGULAR DUST CONTROL / SWEEPING OF PUBLIC AND PRIVATE ROADS AND STREETS. ADDITIONAL CLEANING MAY BE REQUESTED AT THE OWNER OR VILLAGE DISCRETION.
5. OTHER EROSION CONTROL MEASURES SHALL BE IMPLEMENTED SHOULD AN INSPECTION OF THE SITE INDICATE A DEFICIENCY. THE EROSION CONTROL MEASURES SHOWN ON THIS PLAN ARE CONSIDERED THE MINIMUM ELEMENTS REQUIRED. ADDITIONAL EROSION CONTROL MAY BE REQUIRED PER THE OWNER OR VILLAGE. ADDITIONAL EROSION CONTROL ITEMS WILL BE THE CONTRACTOR'S LIABILITY AND RESPONSIBILITY.
6. AREAS REACHING SUBSTANTIAL COMPLETION OF GRADING AND TOPSOIL PLACEMENT OPERATIONS SHALL BE PERMANENTLY SEEDED OR OTHERWISE LANDSCAPED WITHIN 14 DAYS FROM THE SUSPENSION OR COMPLETION OF GRADING AND TOPSOIL OPERATIONS.
7. SECONDARY CONTAINMENT SHALL BE REQUIRED FOR ANY BULK FUEL STORAGE THAT REMAINS ON-SITE FOR A PERIOD LONGER THAN 7 CALENDAR DAYS.
8. CONTAINMENT MEASURES SHALL BE REQUIRED FOR GENERATORS, PUMPS, MIXERS AND OTHER NON-ELECTRICAL POWERED EQUIPMENT THAT ARE TO BE STATIONED FOR LONGER THAN 24 HOURS.
9. CONTRACTOR WILL BE RESPONSIBLE AND LIABLE FOR CORRECTIVE ACTION AND TELEVISING AND / OR INSPECTING SHOULD SEDIMENT, CONCRETE, OR OTHER CONSTRUCTION MATERIALS DRAIN INTO VILLAGE OR IDOT INFRASTRUCTURE.

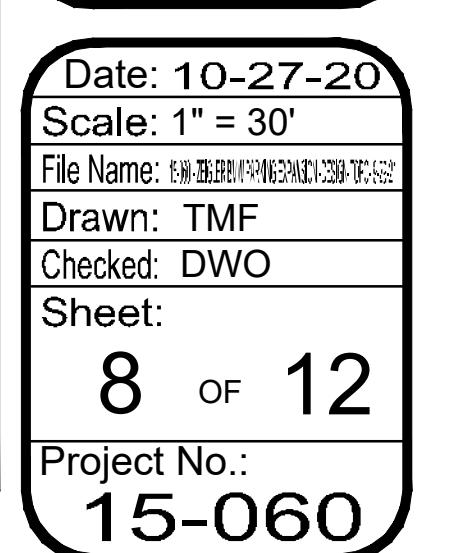


SILT FENCE DETAIL



CONSTRUCTION ENTRANCE NTS

DATE	REVISIONS	Drainage Structure Inlet Fixtures
01-21-02	Original	Buried - All Round Type up to 24" ID
		Marathon Materials, Inc.



**ZEIGLER AUTO GROUP
BMW PARKING LOT EXPANSION
ORLAND PARK, IL
SITE EROSION CONTROL PLAN**

CIVIL ENGINEERING LAND SURVEYING ENVIRONMENTAL LAND PLANNING GPS SERVICES

A. JASPER & ASSOCIATES
9455 ENTERPRISE DRIVE MOKENA, IL 60448
PHONE: 708-720-1000 www.jaseng.com FAX: 708-720-1065

GENERAL CONDITIONS

- Village of Orland Park - Public Works (Telephone 708-444-5500), M.W.R.D. Sewer Permit Office (Telephone 708-588-4055), and Joseph A. Schudt & Associates (Telephone 708-720-1000) must be notified (2) working days prior to commencement of work.
- The Standard Specifications, construction plans and subsequent details are all to be considered as part of the contract. Incidental items and accessories necessary to complete this work may not be specifically noted but are to be considered a part of the contract.
- Construction plans shall be used for construction unless specifically modified "For Construction". Prior to commencement of construction, the contractor shall verify all dimensions and conditions at the job site. In addition, the contractor must verify the Engineer line and grade stakes. If there are any discrepancies from what is shown on the construction plans, he must immediately report same to the Engineer before doing any work, otherwise the contractor assumes full responsibility. In the event of disagreement between the construction plans, standard specifications and/or special details, the contractor shall receive written instructions from the Engineer prior to proceeding with any work to be effected by omission or discrepancies.
- To receive such instructions, the contractor will be considered to have proceeded at his own risk and expense. In the event of any doubt or question rising with respect to the true meaning of the construction plans or specifications, the decision of the Engineer shall be final and conclusive.
- All work performed under this contract shall be guaranteed by the contractor and his surety for a period of 12 months from the date of final acceptance of the work by the Municipality against all defects in materials and workmanship of whatever nature.
- Before acceptance by the Owner and final payment, all work shall be inspected and approved by the Owner or his representative. Final payment will be made after all of the contractor's work has been approved and accepted.
- Intentionally Deleted.
- Easements for the existing utilities, both public and private, and utilities within public rights-of-way are shown on the plans according to available record. The contractor shall be responsible for determining the exact location in the field of these utility lines and their protection from damage due to construction operations. If existing utility lines of any nature are encountered which conflict in location with new construction, the contractor shall notify the Engineer so that the conflict may be resolved.
- Removed pavement, sidewalk, curb and gutter, etc. shall be disposed of at off-site locations provided by the contractor at his own expense.
- The contractor shall be responsible for the installation and maintenance of adequate signs, traffic control devices, and warning devices to inform and protect the public during all phases of construction. One lane in each direction shall be open to traffic at all times except between the hours of 9 A.M. to 3 P.M. During this period all work must be performed in accordance with standards 701201, 701206, and 701401.
- Barricades and warning signs shall be provided in accordance with article 14 of the Standard Specifications. Adequate lighting shall be maintained from the time of all work when construction operations warrant or as designated by the Engineer. Traffic control standards which shall be included for use during construction are: 702001, 701201, 701206, 701303, 701401, 701501, 701606, and 701701. Stop signs must be installed as soon as access is available.
- Commonwealth Edison (Com-Ed), A.T.&T., Telephone, and Ni-Cor Gas have underground and/or overhead service facilities in the vicinity of the proposed work, the contractor shall be responsible for having the utility companies locate their facilities in the field prior to construction and shall also be responsible for the maintenance and preservation of these facilities. The contractor shall call J.U.L.E. at 811 or (800) 892-0123 for utility locations.
- Whenever the performance of work is indicated on the plans, and no item is included in the contract for payment, the work shall be considered incidental to the contract, and no additional compensation will be allowed.
- All existing traffic signs, street signs, etc., which interfere with construction operations and not noted for removal or disposal shall be removed and reset by the contractor at locations as designated by the Engineer. This shall be considered incidental to the contract and no additional compensation shall be allowed. Damage to these items shall be repaired by the contractor at his own expense. All signs not required to be reset shall be delivered to the Municipality or County as appropriate.
- All permanent type pavements or permanent improvements which abut the proposed improvement and must be removed, shall be saw-cut prior to removal. All items so removed shall be replaced with similar construction materials to their original condition or better. Payment for sawing shall be included in the cost for removal of each item and replacement will be paid under the respective items in the contract, unless otherwise indicated.
- Where overhanging branches interfere with operations of construction, said branches shall be trimmed and sealed in accordance with section 645.09 of the Standard Specifications, and the cost of same shall be incidental to the contract. If trees or shrubs must be removed, they will be paid for in accordance with the specifications.
- The contractor shall submit in writing to the Owner and Municipality a "Schedule of Operations" showing approximate dates for commencing and completing various phases of construction under this contract. The schedule shall have the approval of the Engineer and the date for starting shall be mutually agreed upon between the contractor, Owner, Municipality, and the Engineer.
- Special attention is drawn to the fact that article 105.06 of the Standard Specifications require the contractor to have a competent superintendent on the project site at all times irrespective of the amount of work sublet. The superintendent shall be capable of reading and understanding the plans and specifications, shall have full authority to issue orders to expedite the project, and shall be responsible for scheduling and have control of all work as the agent of the general contractor. Failure to comply with the provision will result in a suspension of work as provided in Article 105.07.
- Water Valve boxes and Buffalo boxes that are uncovered during construction shall be adjusted to grade prior to restoring the pavement, sidewalk or parkway. The cost of same shall be considered as incidental to the contract.
- It shall be the responsibility of the contractor to remove from the site any and all materials and debris which result from his construction operation at no additional expense to the Owner.
- The Municipality and/or the Governing Agency shall be notified 48 hours prior to the start of any construction.

EARTHWORK

- Work under this section shall include but not be limited to the following:
 - Clearing and removing from the site, all undesirable trees and other vegetative growth within the construction area. Tree removal shall be kept to a minimum.
 - Stripping of topsoil from all excavation, pavement and structural clay fill areas.
 - Stockpiling of topsoil at locations as directed by the Owner or Engineer. Topsoil stockpiled for future use shall be relatively free from large roots, sticks, weeds, brush, stones larger than one (1) inch diameter or other litter and waste products including other extraneous materials not conductive to plant growth. Topsoil shall be stockpiled in sequence to eliminate any rehandling or double movements by the contractor.
 - Clay cut and Clay fill with compaction within roadway and all other structural fill areas.
- Excavation of all lakes and waterways per plan including all treatments.
- Placement and compaction of clay to standards as required on the construction plans to the design subgrade elevations. The contractor will note that the elevations shown on the construction plans are finished grade elevations and that pavement thickness must be subtracted to determine subgrade elevations. The contractor may obtain required clay fill from on-site excavation and on-site borrow excavation as directed by the Engineer, or Owner.
- Backfilling and compaction behind new curbs and gutters.
- Movement and compaction of soil material from the construction of underground utilities.
- Topsoil Placement to design finished grade elevations (6" minimum or as otherwise noted).
- If required, removal from site of all excess earth material including excess earth trench spoil after final grading.
- The quantities given in the Engineer's Bid Proposal for earthwork is intended as a guide for the contractor 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 Engineer, and/or Owner.
- Proposed pavement areas and when applicable, building pads, driveways and sidewalks shall be excavated or filled to plus or minus 0.1 foot of design subgrade elevations by the contractor.
- The subgrade shall be free of unsuitable material and shall be compacted to a minimum of ninety-five (95) percent of modified proctor density. Testing for compaction shall be the responsibility of the contractor.
- Upon completion of the surface improvements, the excavator shall respread a 6" layer of topsoil on all disturbed parkway, berm, and detention pond areas.
- During construction operations, the contractor shall insure positive site drainage at the conclusion of each day. Site drainage may be achieved by ditching, pumping or any other method acceptable to the Engineer. The contractor's failure to provide the above will preclude any possible added compensation requested due to delays or unsuitable materials created as a result thereof.
- Whenever, during construction operations, any loose material is deposited in the flow line of gutter, drainage structures, ditches, etc., such that the natural flow line of water is obstructed, this loose material shall be removed at the close of each working day. At the conclusion of construction operations, all drainage structures and flow lines shall be free from dirt and debris. This work shall be considered incidental to the contract.
- All disturbed areas within the right-of-way, parkways and detention areas shall be seeded with I.D.O.T. CL 1 mixture in accordance with the "Standard Specifications" unless otherwise noted on landscape plans and protected with Excelsior Erosion Blanket or equal.
- Soil erosion control specifications shall be considered as part of this section.
- All earthwork and utility spoils to be hauled offsite shall be tested by the contractor for disposal requirements.

UNDERGROUND

- Work under this section shall include trenching, installation of pipe, castings, structures, backfilling of trenches and compaction.
- All manholes and valve vaults shall be equipped with steps. Manholes will contain plastic coated steps per Precast Concrete Manhole Detail at 16 inch centers.
- All sewer and water main trenches beneath proposed or existing utilities, proposed or existing pavement, driveways, sidewalks and for a distance of two feet on either side of same, and/or wherever else shown on the construction plan shall be backfilled with coarse aggregate backfill (CA-7) and thoroughly compacted in accordance with the Standard Specifications.
- All mating surfaces of concrete adjustment riser(s), structure sections, and frames shall be sealed with an external seal. no mastic sealant, concrete mortar or epoxy mortar shall be allowed as a sealant for adjustment risers, structure sections or frames. in-shield unibond provided by sealing systems, inc. and wapridale manhole encapsulation system by cc piping systems or equivalent, as determined by the Village of Orland Park, are acceptable external seal products.
- The underground contractor shall stock pile all utility spoil in an area designated by the Engineer or Owner. This work shall be considered incidental to the contract. If authorized to do so, the underground contractor shall level out and disburse all utility spoil or remove it from the site. If no Earthwork Contract is awarded for this project, the underground contractor shall be responsible for removal of all excess Utility Spoil from the site. This work shall be considered incidental to the contract.
- The construction will be observed by the Owners Engineer. All work shall conform to the requirements of the Municipality as well as the Standard Specifications.
- The contractor shall provide the Engineer and the Municipality, and/or the Governing Agency, with prints and/or legible Mylar Record Drawings of all field tiles, cleanouts, wyes, service stubs, B-Boxes, and underdrains as required.
- Separation between water mains and sewers must be maintained in accordance with Section 41-2.01B, C, & D of the "Standard Specifications". For storm sewer pipes that cross water mains, the storm sewer must be constructed of low head pressure pipe meeting ASTM C-443. The flexible "O" ring utilized in the type of joint must be properly seated to insure water-tightness.
- All floor drains shall be connected to the sanitary sewer and all downspouts and footing drains shall discharge into storm sewer or onto the ground.
- Curb inlets are to be EJW 7010 Type M-3 HD, as indicated on the plans.
- Rigid Sanitary Sewers and Storm Sewers shall be installed on Class B bedding, 1/4" in size, with a minimum thickness equal to that identified on the appropriate sewer section indicated on the detail sheet. Blocking of any kind for grade is not permitted. Bedding material shall conform to the requirements of ASTM C-33 for soundness and CA-11 for gradation. Cost for bedding shall be merged with unit price bid for the sewer.
- Where flexible pipe is used, the pipe shall be installed on Class I bedding and additional backfill extending to 12" over the pipe. Backfilling shall be in accordance with ASTM C-231. A deflection test shall be required by using a Rigid Ball or Mandrel as required in accordance with ASTM D-304. A 95% Mandrel is required and will not be used prior to 45 days after backfilling.
- "band-seal" or similar flexible type couplings shall be used when connecting pipes of dissimilar materials, when connecting to an existing sanitary sewer by means other than an existing wye or manhole, contractor shall use a "sewer-tap" and hub-wye or hub-tee saddle.
- All sewer main connections to an existing sanitary sewer main shall be with a manhole.

- Excavation of all lakes and waterways per plan including all treatments.
- Placement and compaction of clay to standards as required on the construction plans to the design subgrade elevations. The contractor will note that the elevations shown on the construction plans are finished grade elevations and that pavement thickness must be subtracted to determine subgrade elevations. The contractor may obtain required clay fill from on-site excavation and on-site borrow excavation as directed by the Engineer, or Owner.
- Backfilling and compaction behind new curbs and gutters.
- Movement and compaction of soil material from the construction of underground utilities.
- Topsoil Placement to design finished grade elevations (6" minimum or as otherwise noted).
- If required, removal from site of all excess earth material including excess earth trench spoil after final grading.
- The quantities given in the Engineer's Bid Proposal for earthwork is intended as a guide for the contractor 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 Engineer, and/or Owner.
- Proposed pavement areas and when applicable, building pads, driveways and sidewalks shall be excavated or filled to plus or minus 0.1 foot of design subgrade elevations by the contractor.
- The subgrade shall be free of unsuitable material and shall be compacted to a minimum of ninety-five (95) percent of modified proctor density. Testing for compaction shall be the responsibility of the contractor.
- Upon completion of the surface improvements, the excavator shall respread a 6" layer of topsoil on all disturbed parkway, berm, and detention pond areas.
- During construction operations, the contractor shall insure positive site drainage at the conclusion of each day. Site drainage may be achieved by ditching, pumping or any other method acceptable to the Engineer. The contractor's failure to provide the above will preclude any possible added compensation requested due to delays or unsuitable materials created as a result thereof.
- Whenever, during construction operations, any loose material is deposited in the flow line of gutter, drainage structures, ditches, etc., such that the natural flow line of water is obstructed, this loose material shall be removed at the close of each working day. At the conclusion of construction operations, all drainage structures and flow lines shall be free from dirt and debris. This work shall be considered incidental to the contract.
- All disturbed areas within the right-of-way, parkways and detention areas shall be seeded with I.D.O.T. CL 1 mixture in accordance with the "Standard Specifications" unless otherwise noted on landscape plans and protected with Excelsior Erosion Blanket or equal.
- Soil erosion control specifications shall be considered as part of this section.
- All earthwork and utility spoils to be hauled offsite shall be tested by the contractor for disposal requirements.

- Excavation of all lakes and waterways per plan including all treatments.
- Placement and compaction of clay to standards as required on the construction plans to the design subgrade elevations. The contractor will note that the elevations shown on the construction plans are finished grade elevations and that pavement thickness must be subtracted to determine subgrade elevations. The contractor may obtain required clay fill from on-site excavation and on-site borrow excavation as directed by the Engineer, or Owner.
- Backfilling and compaction behind new curbs and gutters.
- Movement and compaction of soil material from the construction of underground utilities.
- Topsoil Placement to design finished grade elevations (6" minimum or as otherwise noted).
- If required, removal from site of all excess earth material including excess earth trench spoil after final grading.
- The quantities given in the Engineer's Bid Proposal for earthwork is intended as a guide for the contractor 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 Engineer, and/or Owner.
- Proposed pavement areas and when applicable, building pads, driveways and sidewalks shall be excavated or filled to plus or minus 0.1 foot of design subgrade elevations by the contractor.
- The subgrade shall be free of unsuitable material and shall be compacted to a minimum of ninety-five (95) percent of modified proctor density. Testing for compaction shall be the responsibility of the contractor.
- Upon completion of the surface improvements, the excavator shall respread a 6" layer of topsoil on all disturbed parkway, berm, and detention pond areas.
- During construction operations, the contractor shall insure positive site drainage at the conclusion of each day. Site drainage may be achieved by ditching, pumping or any other method acceptable to the Engineer. The contractor's failure to provide the above will preclude any possible added compensation requested due to delays or unsuitable materials created as a result thereof.
- Whenever, during construction operations, any loose material is deposited in the flow line of gutter, drainage structures, ditches, etc., such that the natural flow line of water is obstructed, this loose material shall be removed at the close of each working day. At the conclusion of construction operations, all drainage structures and flow lines shall be free from dirt and debris. This work shall be considered incidental to the contract.
- All disturbed areas within the right-of-way, parkways and detention areas shall be seeded with I.D.O.T. CL 1 mixture in accordance with the "Standard Specifications" unless otherwise noted on landscape plans and protected with Excelsior Erosion Blanket or equal.
- Soil erosion control specifications shall be considered as part of this section.
- All earthwork and utility spoils to be hauled offsite shall be tested by the contractor for disposal requirements.

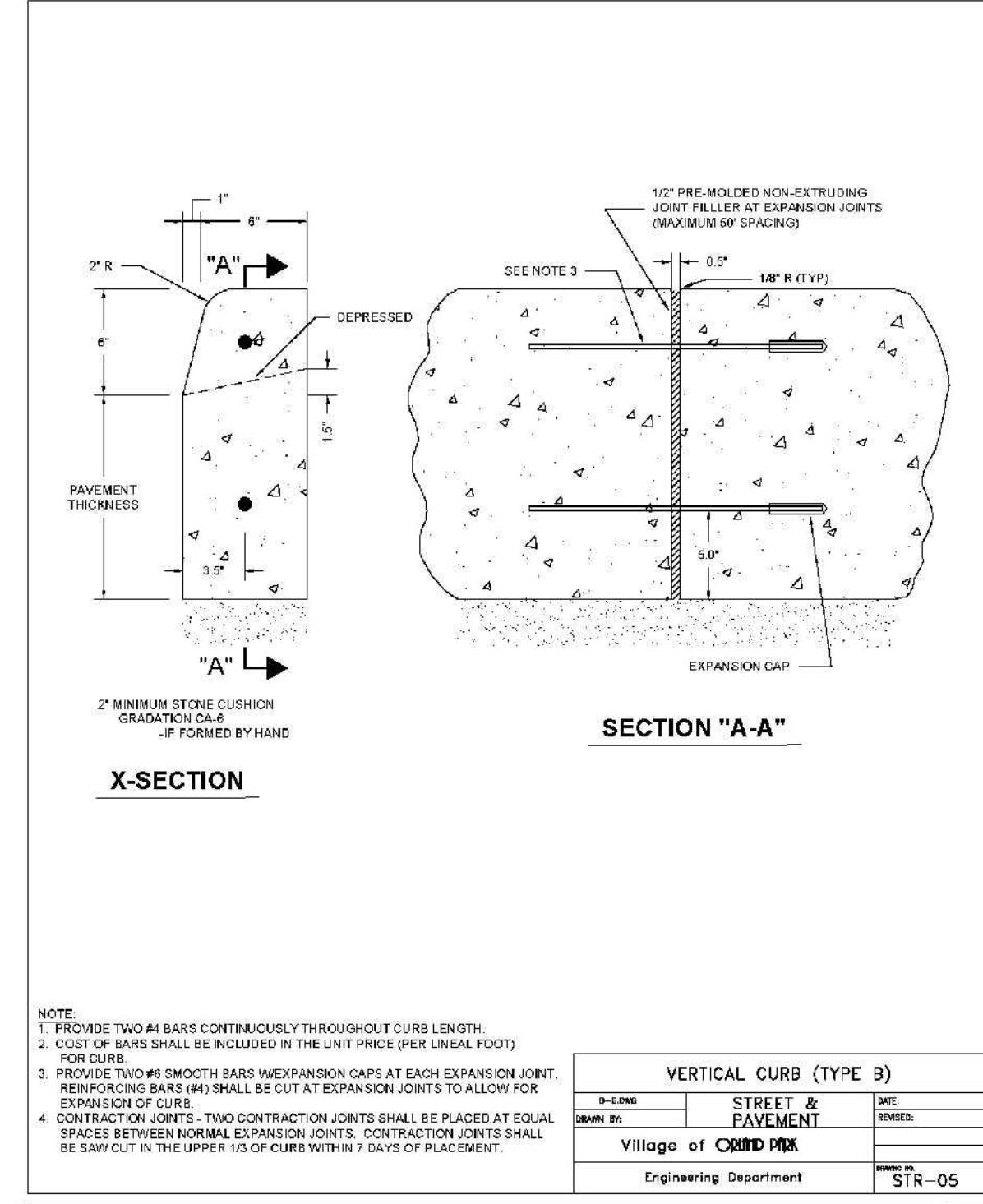
- Excavation of all lakes and waterways per plan including all treatments.
- Placement and compaction of clay to standards as required on the construction plans to the design subgrade elevations. The contractor will note that the elevations shown on the construction plans are finished grade elevations and that pavement thickness must be subtracted to determine subgrade elevations. The contractor may obtain required clay fill from on-site excavation and on-site borrow excavation as directed by the Engineer, or Owner.
- Backfilling and compaction behind new curbs and gutters.
- Movement and compaction of soil material from the construction of underground utilities.
- Topsoil Placement to design finished grade elevations (6" minimum or as otherwise noted).
- If required, removal from site of all excess earth material including excess earth trench spoil after final grading.
- The quantities given in the Engineer's Bid Proposal for earthwork is intended as a guide for the contractor 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 Engineer, and/or Owner.
- Proposed pavement areas and when applicable, building pads, driveways and sidewalks shall be excavated or filled to plus or minus 0.1 foot of design subgrade elevations by the contractor.
- The subgrade shall be free of unsuitable material and shall be compacted to a minimum of ninety-five (95) percent of modified proctor density. Testing for compaction shall be the responsibility of the contractor.
- Upon completion of the surface improvements, the excavator shall respread a 6" layer of topsoil on all disturbed parkway, berm, and detention pond areas.
- During construction operations, the contractor shall insure positive site drainage at the conclusion of each day. Site drainage may be achieved by ditching, pumping or any other method acceptable to the Engineer. The contractor's failure to provide the above will preclude any possible added compensation requested due to delays or unsuitable materials created as a result thereof.
- Whenever, during construction operations, any loose material is deposited in the flow line of gutter, drainage structures, ditches, etc., such that the natural flow line of water is obstructed, this loose material shall be removed at the close of each working day. At the conclusion of construction operations, all drainage structures and flow lines shall be free from dirt and debris. This work shall be considered incidental to the contract.
- All disturbed areas within the right-of-way, parkways and detention areas shall be seeded with I.D.O.T. CL 1 mixture in accordance with the "Standard Specifications" unless otherwise noted on landscape plans and protected with Excelsior Erosion Blanket or equal.
- Soil erosion control specifications shall be considered as part of this section.
- All earthwork and utility spoils to be hauled offsite shall be tested by the contractor for disposal requirements.

- Excavation of all lakes and waterways per plan including all treatments.
- Placement and compaction of clay to standards as required on the construction plans to the design subgrade elevations. The contractor will note that the elevations shown on the construction plans are finished grade elevations and that pavement thickness must be subtracted to determine subgrade elevations. The contractor may obtain required clay fill from on-site excavation and on-site borrow excavation as directed by the Engineer, or Owner.
- Backfilling and compaction behind new curbs and gutters.
- Movement and compaction of soil material from the construction of underground utilities.
- Topsoil Placement to design finished grade elevations (6" minimum or as otherwise noted).
- If required, removal from site of all excess earth material including excess earth trench spoil after final grading.
- The quantities given in the Engineer's Bid Proposal for earthwork is intended as a guide for the contractor 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 Engineer, and/or Owner.
- Proposed pavement areas and when applicable, building pads, driveways and sidewalks shall be excavated or filled to plus or minus 0.1 foot of design subgrade elevations by the contractor.
- The subgrade shall be free of unsuitable material and shall be compacted to a minimum of ninety-five (95) percent of modified proctor density. Testing for compaction shall be the responsibility of the contractor.
- Upon completion of the surface improvements, the excavator shall respread a 6" layer of topsoil on all disturbed parkway, berm, and detention pond areas.
- During construction operations, the contractor shall insure positive site drainage at the conclusion of each day. Site drainage may be achieved by ditching, pumping or any other method acceptable to the Engineer. The contractor's failure to provide the above will preclude any possible added compensation requested due to delays or unsuitable materials created as a result thereof.
- Whenever, during construction operations, any loose material is deposited in the flow line of gutter, drainage structures, ditches, etc., such that the natural flow line of water is obstructed, this loose material shall be removed at the close of each working day. At the conclusion of construction operations, all drainage structures and flow lines shall be free from dirt and debris. This work shall be considered incidental to the contract.
- All disturbed areas within the right-of-way, parkways and detention areas shall be seeded with I.D.O.T. CL 1 mixture in accordance with the "Standard Specifications" unless otherwise noted on landscape plans and protected with Excelsior Erosion Blanket or equal.
- Soil erosion control specifications shall be considered as part of this section.
- All earthwork and utility spoils to be hauled offsite shall be tested by the contractor for disposal requirements.

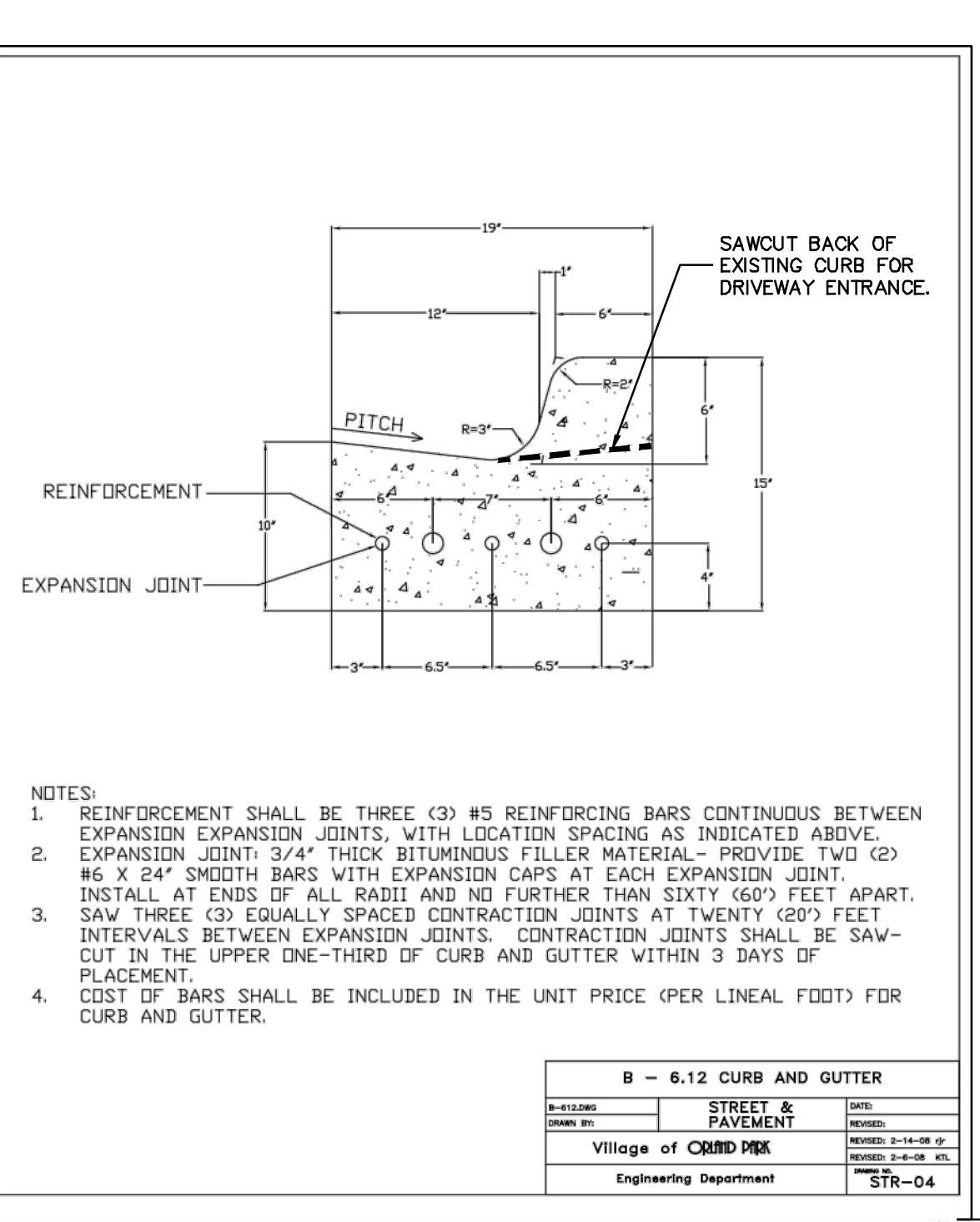
- Excavation of all lakes and waterways per plan including all treatments.
- Placement and compaction of clay to standards as required on the construction plans to the design subgrade elevations. The contractor will note that the elevations shown on the construction plans are finished grade elevations and that pavement thickness must be subtracted to determine subgrade elevations. The contractor may obtain required clay fill from on-site excavation and on-site borrow excavation as directed by the Engineer, or Owner.
- Backfilling and compaction behind new curbs and gutters.
- Movement and compaction of soil material from the construction of underground utilities.
- Topsoil Placement to design finished grade elevations (6" minimum or as otherwise noted).
- If required, removal from site of all excess earth material including excess earth trench spoil after final grading.
- The quantities given in the Engineer's Bid Proposal for earthwork is intended as a guide for the contractor 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 Engineer, and/or Owner.
- Proposed pavement areas and when applicable, building pads, driveways and sidewalks shall be excavated or filled to plus or minus 0.1 foot of design subgrade elevations by the contractor.
- The subgrade shall be free of unsuitable material and shall be compacted to a minimum of ninety-five (95) percent of modified proctor density. Testing for compaction shall be the responsibility of the contractor.
- Upon completion of the surface improvements, the excavator shall respread a 6" layer of topsoil on all disturbed parkway, berm, and detention pond areas.
- During construction operations, the contractor shall insure positive site drainage at the conclusion of each day. Site drainage may be achieved by ditching, pumping or any other method acceptable to the Engineer. The contractor's failure to provide the above will preclude any possible added compensation requested due to delays or unsuitable materials created as a result thereof.
- Whenever, during construction operations, any loose material is deposited in the flow line of gutter, drainage structures, ditches, etc., such that the natural flow line of water is obstructed, this loose material shall be removed at the close of each working day. At the conclusion of construction operations, all drainage structures and flow lines shall be free from dirt and debris. This work shall be considered incidental to the contract.
- All disturbed areas within the right-of-way, parkways and detention areas shall be seeded with I.D.O.T. CL 1 mixture in accordance with the "Standard Specifications" unless otherwise noted on landscape plans and protected with Excelsior Erosion Blanket or equal.
- Soil erosion control specifications shall be considered as part of this section.
- All earthwork and utility spoils to be hauled offsite shall be tested by the contractor for disposal requirements.

- Excavation of all lakes and waterways per plan including all treatments.
- Placement and compaction of clay to standards as required on the construction plans to the design subgrade elevations. The contractor will note that the elevations shown on the construction plans are finished grade elevations and that pavement thickness must be subtracted to determine subgrade elevations. The contractor may obtain required clay fill from on-site excavation and on-site borrow excavation as directed by the Engineer, or Owner.
- Backfilling and compaction behind new curbs and gutters.
- Movement and compaction of soil material from the construction of underground utilities.
- Topsoil Placement to design finished grade elevations (6" minimum or as otherwise noted).
- If required, removal from site of all excess earth material including excess earth trench spoil after final grading.
- The quantities given in the Engineer's Bid Proposal for earthwork is intended as a guide for the contractor 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 Engineer, and/or Owner.
- Proposed pavement areas and when applicable, building pads, driveways and sidewalks shall be excavated or filled to plus or minus 0.1 foot of design subgrade elevations by the contractor.
- The subgrade shall be free of unsuitable material and shall be compacted to a minimum of ninety-five (95) percent of modified proctor density. Testing for compaction shall be the responsibility of the contractor.
- Upon completion of the surface improvements, the excavator shall respread a 6" layer of topsoil on all disturbed parkway, berm, and detention pond areas.
- During construction operations, the contractor shall insure positive site drainage at the conclusion of each day. Site drainage may be achieved by ditching, pumping or any other method acceptable to the Engineer. The contractor's failure to provide the above will preclude any possible added compensation requested due to delays or unsuitable materials created as a result thereof.
- Whenever, during construction operations, any loose material is deposited in the flow line of gutter, drainage structures, ditches, etc., such that the natural flow line of water is obstructed, this loose material shall be removed at the close of each working day. At the conclusion of construction operations, all drainage structures and flow lines shall be free from dirt and debris. This work shall be considered incidental to the contract.
- All disturbed areas within the right-of-way, parkways and detention areas shall be seeded with I.D.O.T. CL 1 mixture in accordance with the "Standard Specifications" unless otherwise noted on landscape plans and protected with Excelsior Erosion Blanket or equal.
- Soil erosion control specifications shall be considered as part of this section.
- All earthwork and utility spoils to be hauled offsite shall be tested by the contractor for disposal requirements.

- Excavation of all lakes and waterways per plan including all treatments.
- Placement and compaction of clay to standards as required on the construction plans to the design subgrade elevations. The contractor will note that the elevations shown on the construction plans are finished grade elevations and that pavement thickness must be subtracted to determine subgrade elevations. The contractor may obtain required clay fill from on-site excavation and on-site borrow excavation as directed by the Engineer, or Owner.
- Backfilling and compaction behind new curbs and gutters.</li



SECTION "A-A"

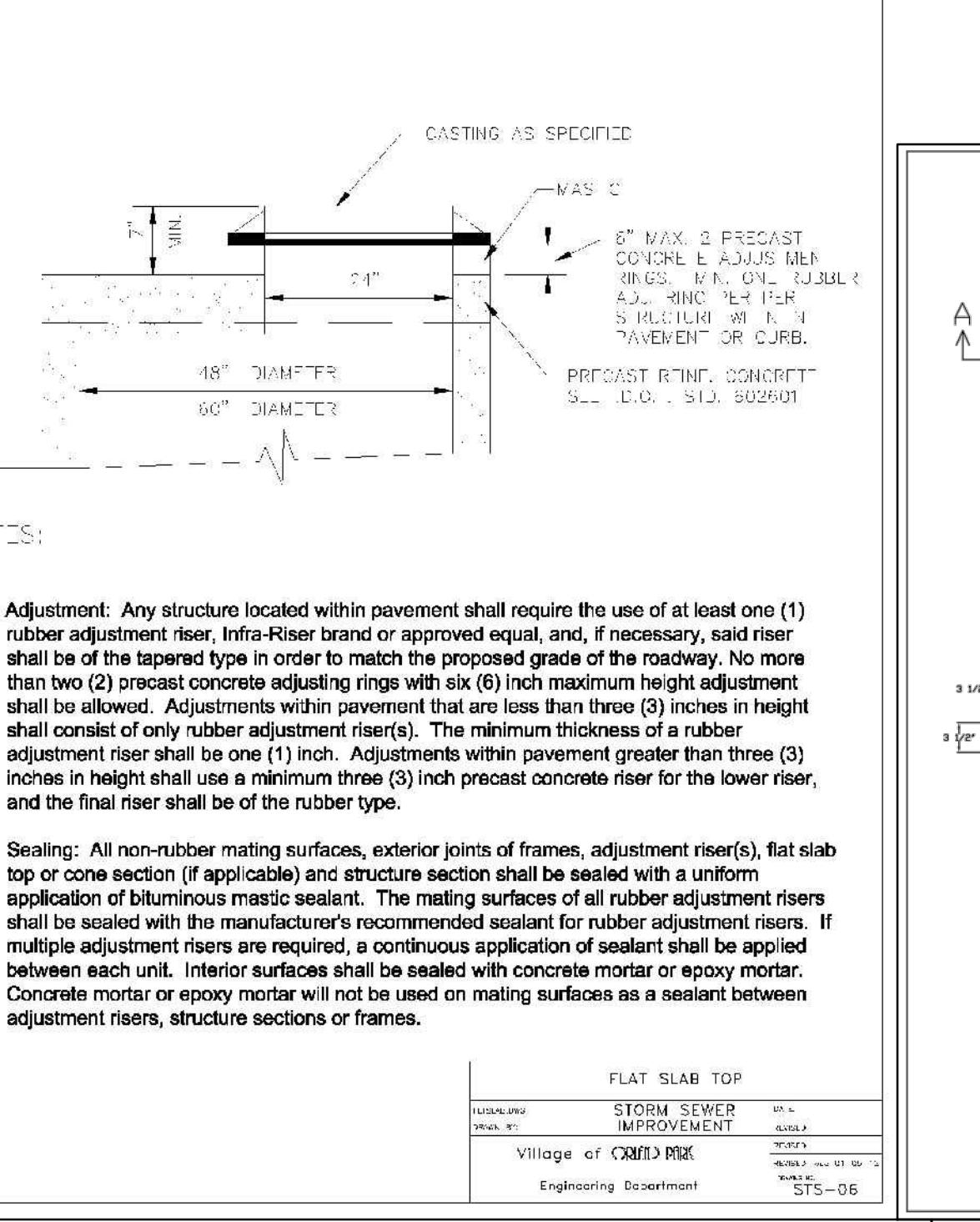


NOTES:

1. PROVIDE TWO #4 BARS CONTINUOUSLY THROUHOUT CURB LENGTH.
2. COST OF BARS SHALL BE INCLUDED IN THE UNIT PRICE (PER LINEAL FOOT).
3. PROVIDE TWO #6 SMOOTH BARS W/ EXPANSION CAPS AT EACH EXPANSION JOINT. REINFORCING BARS #4# SHALL BE CUT AT EXPANSION JOINTS TO ALLOW FOR EXPANSION.
4. CONTRACTION JOINTS - TWO CONTRACTION JOINTS SHALL BE PLACED AT EQUAL SPACES BETWEEN NORMAL EXPANSION JOINTS. CONTRACTION JOINTS SHALL BE SAW-CUT IN THE UPPER ONE-THIRD OF CURB AND GUTTER WITHIN 3 DAYS OF PLACEMENT.
5. COST OF BARS SHALL BE INCLUDED IN THE UNIT PRICE (PER LINEAL FOOT) FOR CURB AND GUTTER.

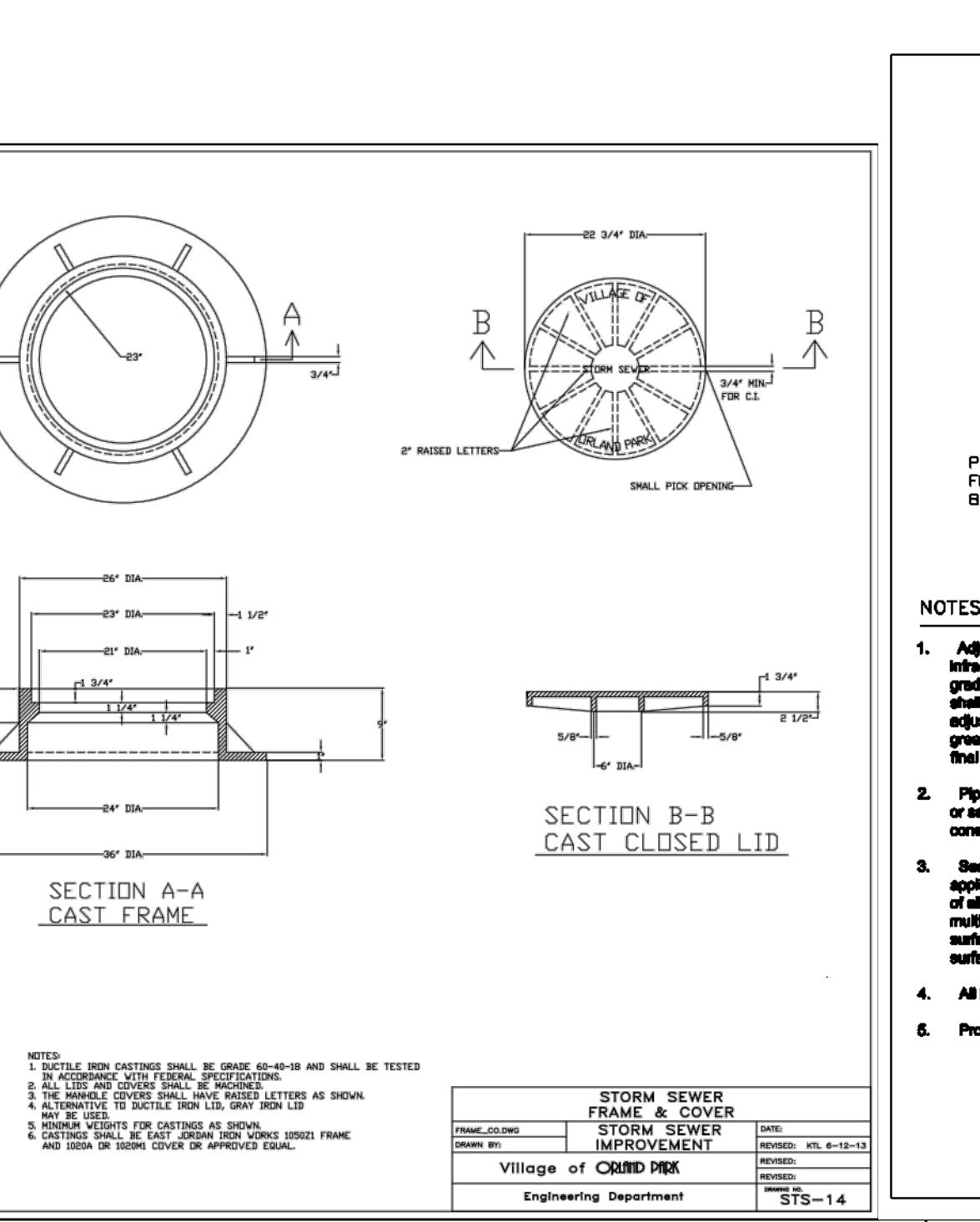
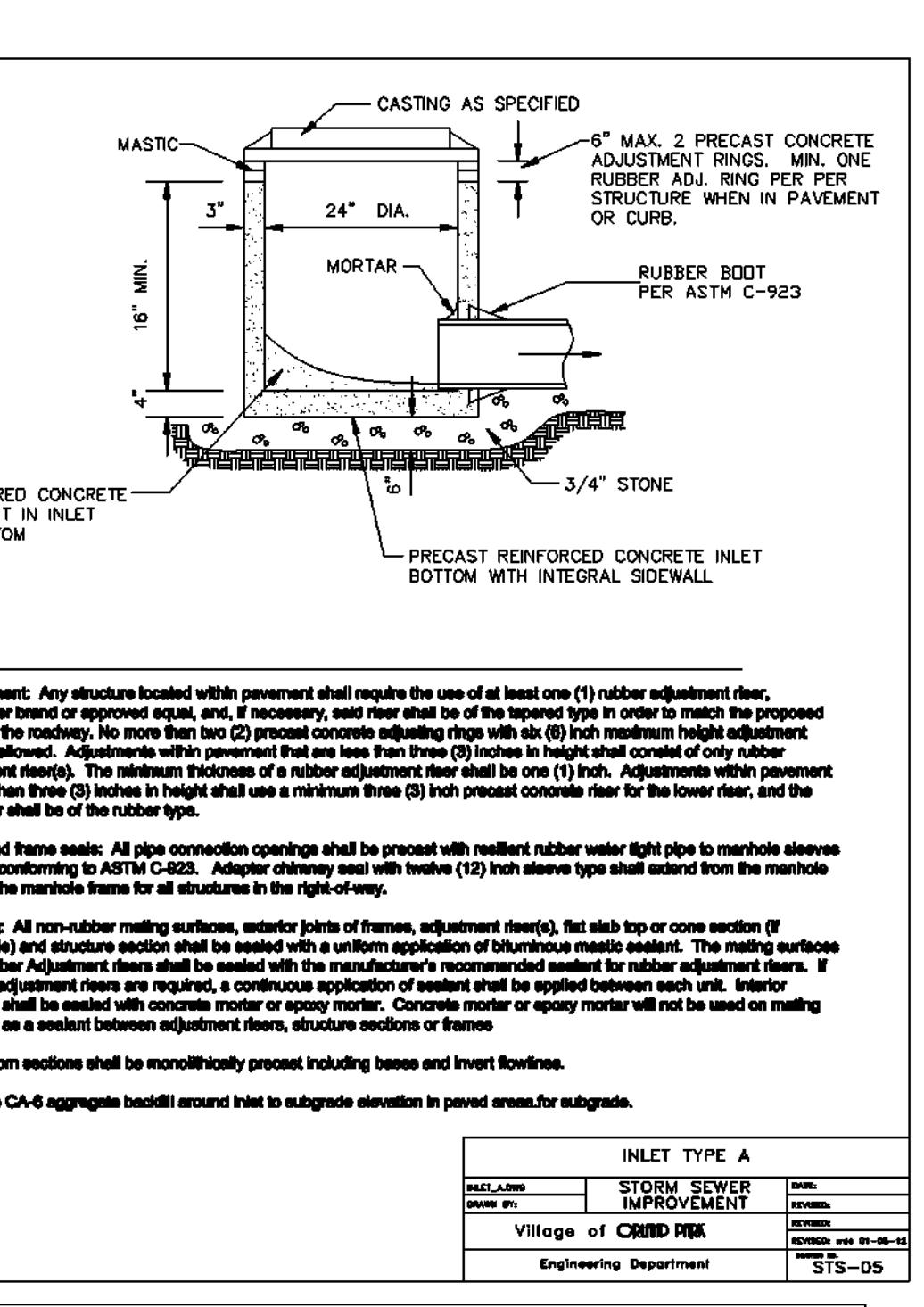
VERTICAL CURB (TYPE B)

B-LENG	STREET & PAVEMENT	DATE
0-112.000	STREET & PAVEMENT	07/18/05
Village of OXND PARK	Engineering Department	STR-04



NOTES:

1. Adjustment: Any structure located within pavement shall require the use of at least one (1) rubber adjustment riser, Infra-Riser brand or approved equal, and, if necessary, said riser shall be the tapered type in order to match the proposed grade of the roadway. No more than two (2) precast concrete adjusting rings with #6 (6) inch maximum height adjustment shall be allowed. Adjustments within pavements that are less than three (3) inches in height shall consist of one (1) rubber adjustment riser(s). The minimum thickness of a rubber adjustment riser shall be one (1) inch. Adjustments within pavement greater than three (3) inches in height shall use a minimum three (3) inch precast concrete riser for the lower riser, and the final riser shall be of the rubber type.
2. Sealing: All non-rubber mating surfaces, exterior joints of frames, adjustment riser(s), flat top or cone section (if applicable) and structure section shall be sealed with a uniform application of bituminous mastic sealant. The mating surfaces of all rubber adjustment risers shall be sealed with the manufacturer's recommended sealant for rubber adjustment risers. If multiple adjustment risers are required, a continuous application of sealant shall be applied between each unit. Interior surfaces shall be sealed with concrete mortar or epoxy mortar. Concrete mortar or epoxy mortar will not be used on mating surfaces as a sealant between adjustment risers, structure sections or frames.

SECTION B-B
CAST CLOSED LID

NOTES:

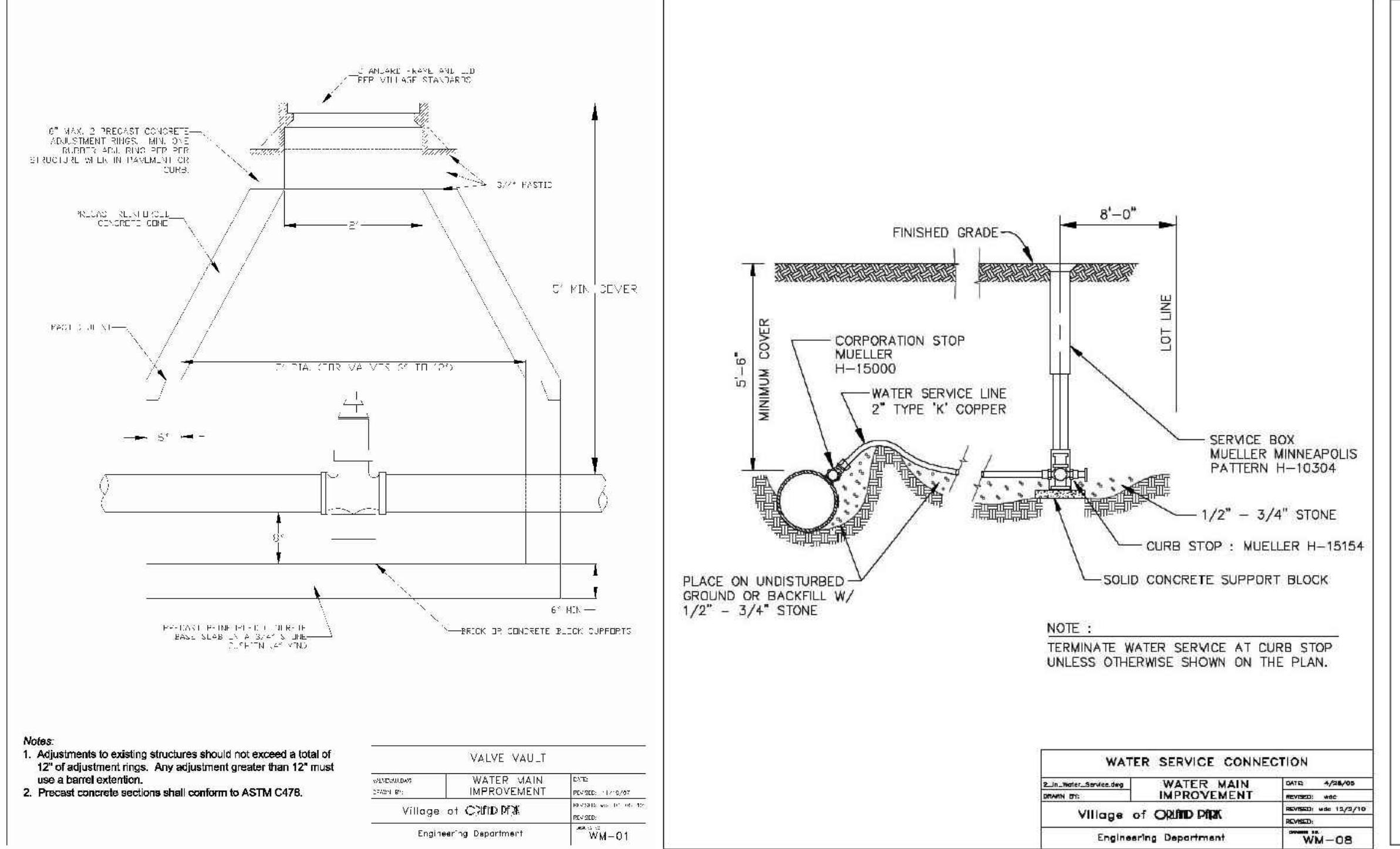
1. Adjustment: Any structure located within pavement shall require the use of at least one (1) rubber adjustment riser, Infra-Riser brand or approved equal, and, if necessary, said riser shall be the tapered type in order to match the proposed grade of the roadway. No more than two (2) precast concrete adjusting rings with #6 (6) inch maximum height adjustment shall be allowed. Adjustments within pavements that are less than three (3) inches in height shall consist of one (1) rubber adjustment riser(s). The minimum thickness of a rubber adjustment riser shall be one (1) inch. Adjustments within pavement greater than three (3) inches in height shall use a minimum three (3) inch precast concrete riser for the lower riser, and the final riser shall be of the rubber type.
2. Pipe and frame seal: All pipe connection openings shall be precast with resilient rubber water tight pipe to masonry sleeves or seals conforming to ASTM C-222. Adapter chimney seal with twelve (12) inch sleeve type shall extend from the masonry case to the masonry sleeve for all structures in the right-of-way.
3. Sealing: All non-rubber mating surfaces, exterior joints of frames, adjustment riser(s), flat top or cone section (if applicable) and structure section shall be sealed with a uniform application of bituminous mastic sealant. The mating surfaces of all rubber adjustment risers shall be sealed with the manufacturer's recommended sealant for rubber adjustment risers. If multiple adjustment risers are required, a continuous application of sealant shall be applied between each unit. Interior surfaces shall be sealed with concrete mortar or epoxy mortar. Concrete mortar or epoxy mortar will not be used on mating surfaces as a sealant between adjustment risers, structure sections or frames.
4. All bottom sections shall be monolithically precast including bases and invert flowlines.
5. Provide CA-6 aggregate backfill around inlet to subgrade elevation in areas for subgrade.

INLET TYPE A	STORM SEWER FRAME & COVER
0-112.000	STORM SEWER FRAME & COVER

Engineering Department

STS-05

(184-001172)

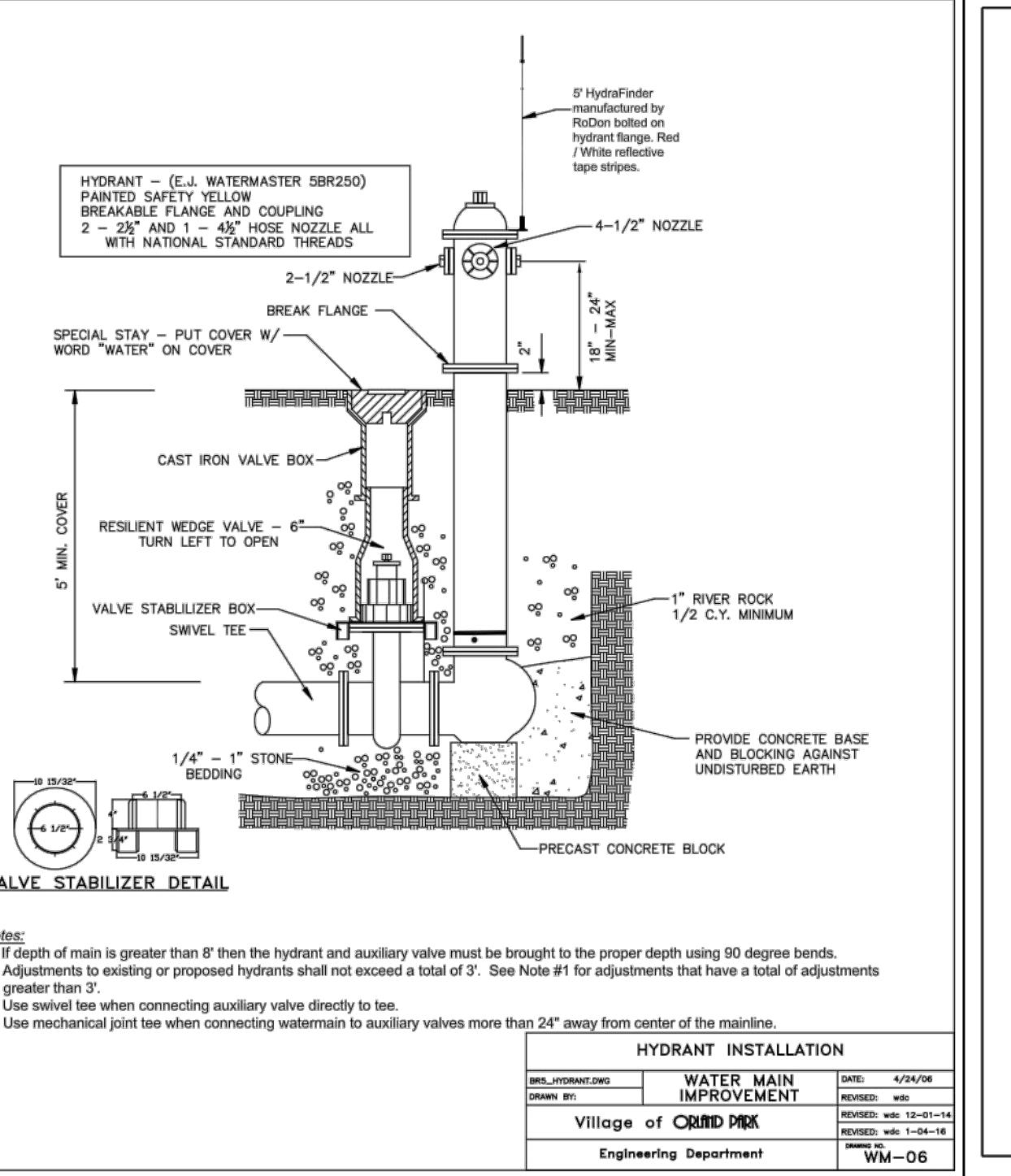


Notes:

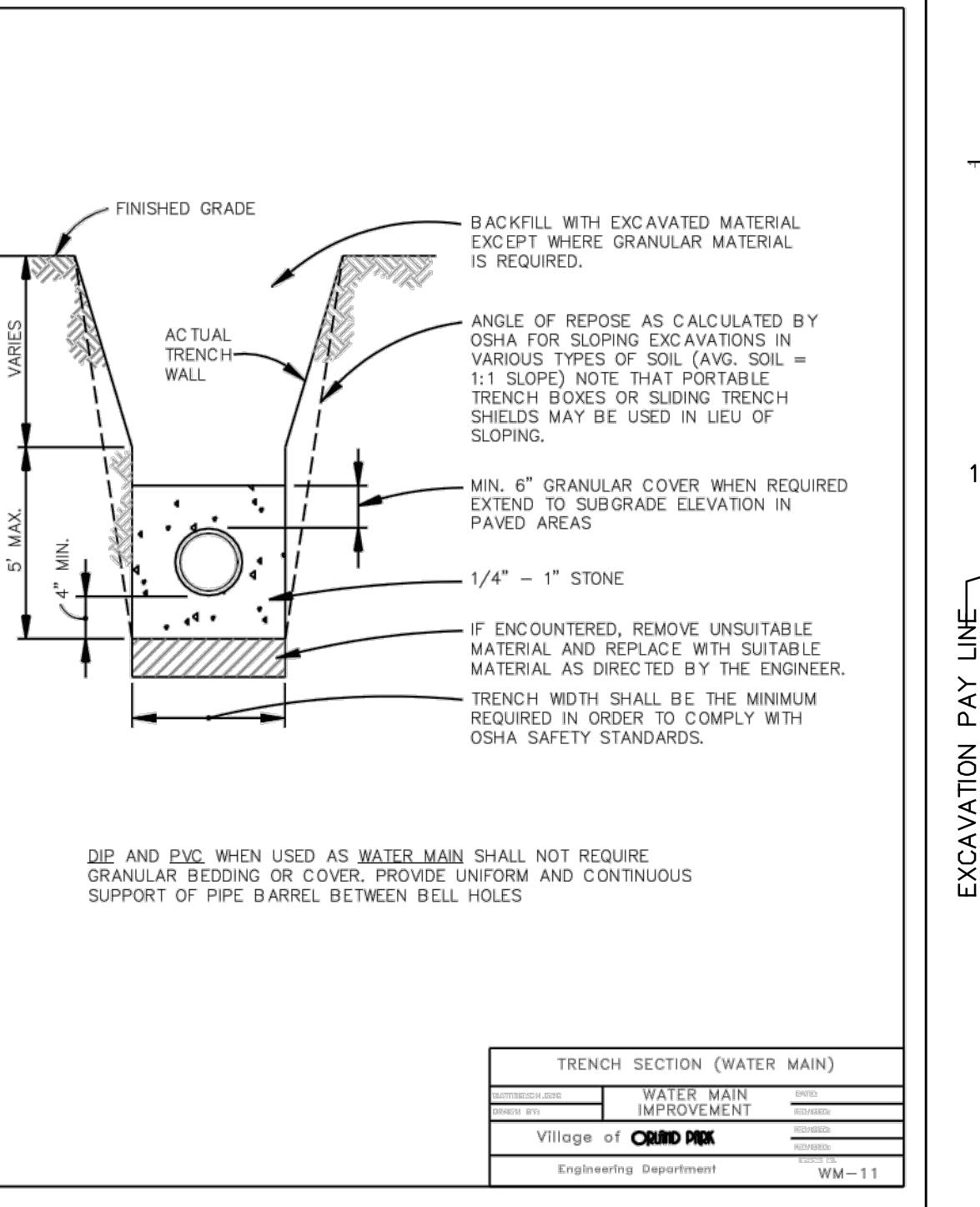
1. Adjustments to existing structures should not exceed a total of 12" of adjustment rings. Any adjustment greater than 12" must use a band extender.
2. Precast concrete sections shall conform to ASTM C476.

VALVE VAULT	
0-112.000	WATER MAIN IMPROVEMENT
07/18/05	07/18/05
Village of OXND PARK	Engineering Department

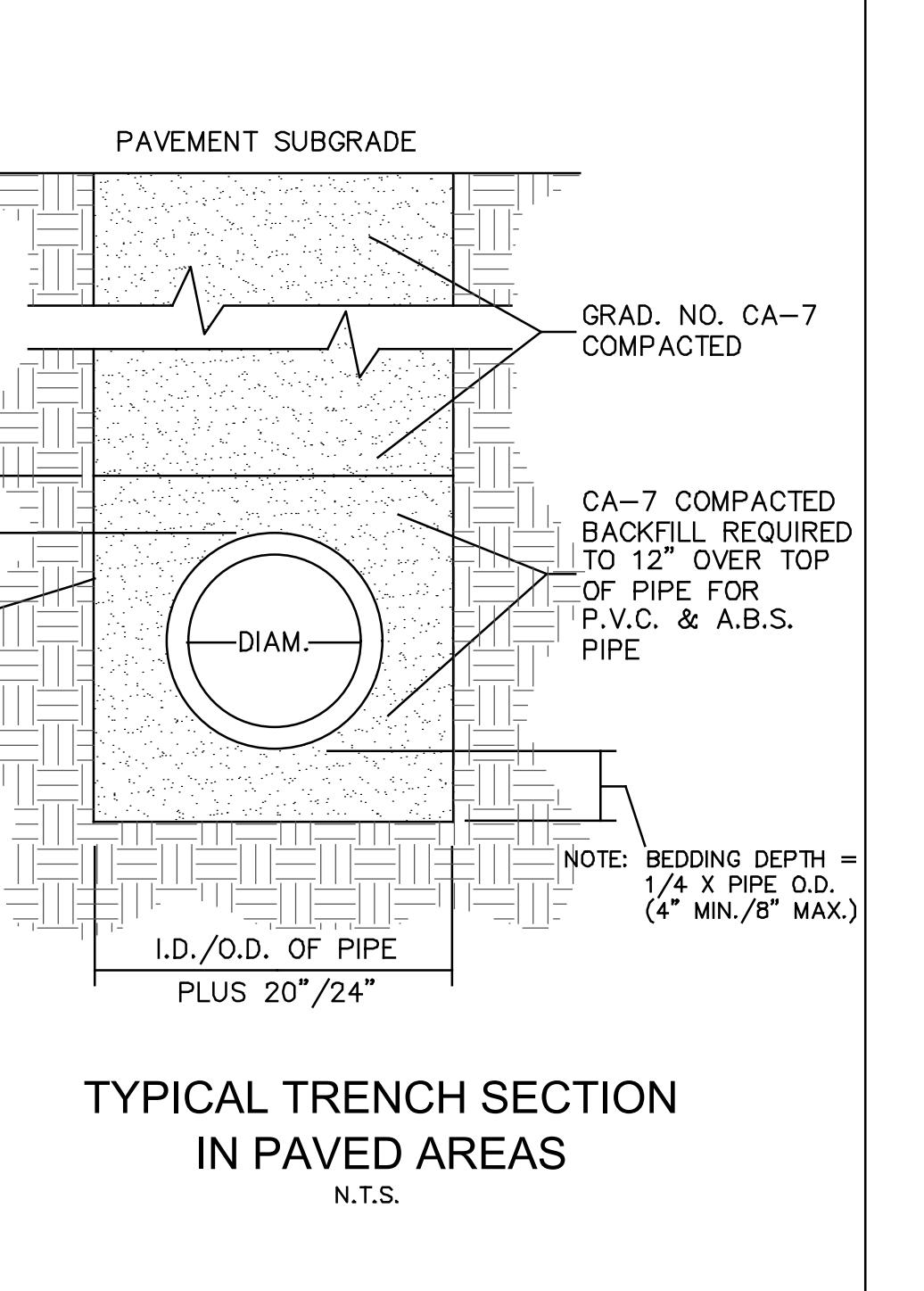
WATER SERVICE CONNECTION	
0-112.000	WATER MAIN IMPROVEMENT
07/18/05	07/18/05
Village of OXND PARK	Engineering Department



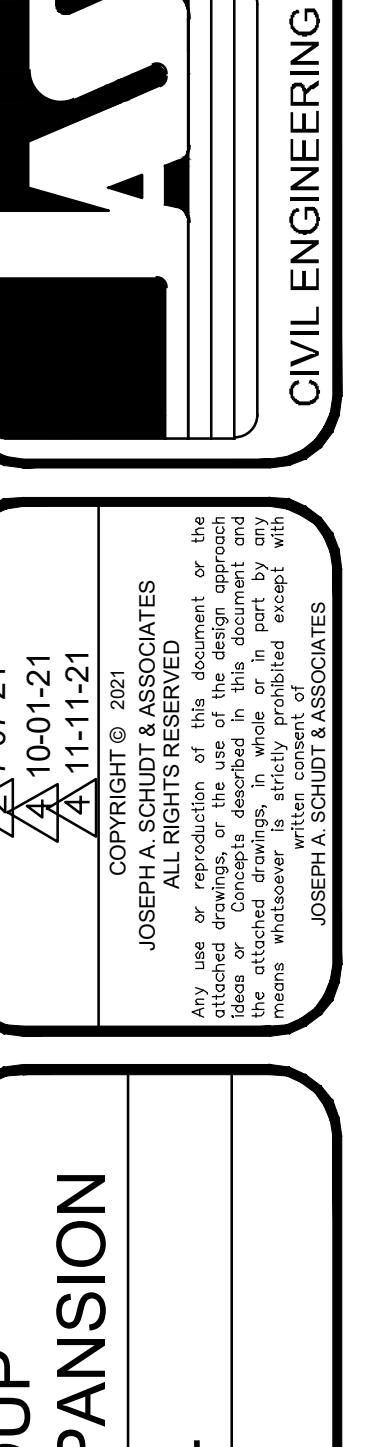
HYDRANT INSTALLATION	
0-112.000	WATER MAIN IMPROVEMENT
07/18/05	07/18/05
Village of OXND PARK	Engineering Department



TRENCH SECTION (WATER MAIN)	
0-112.000	WATER MAIN IMPROVEMENT
07/18/05	07/18/05
Village of OXND PARK	Engineering Department

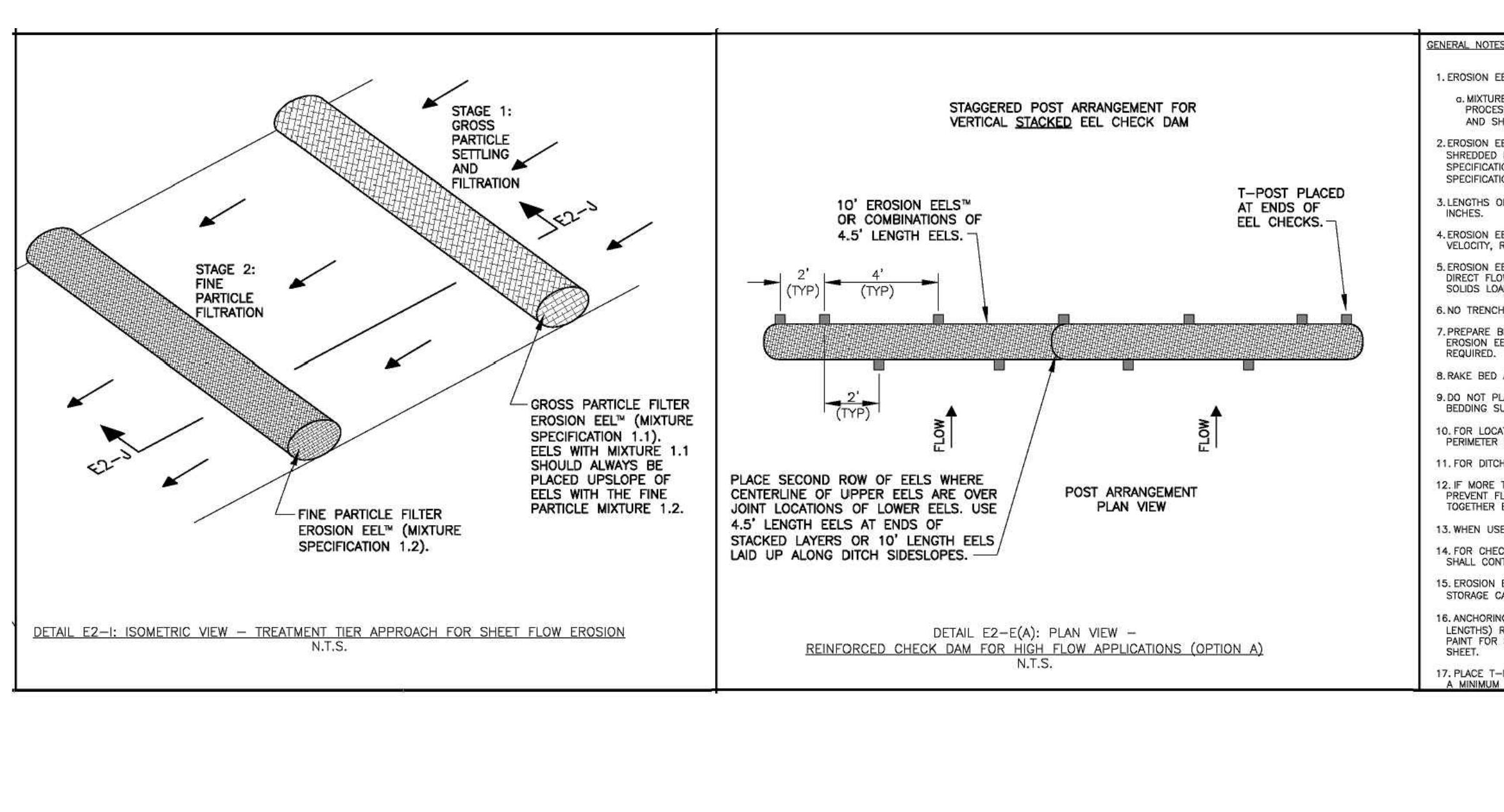
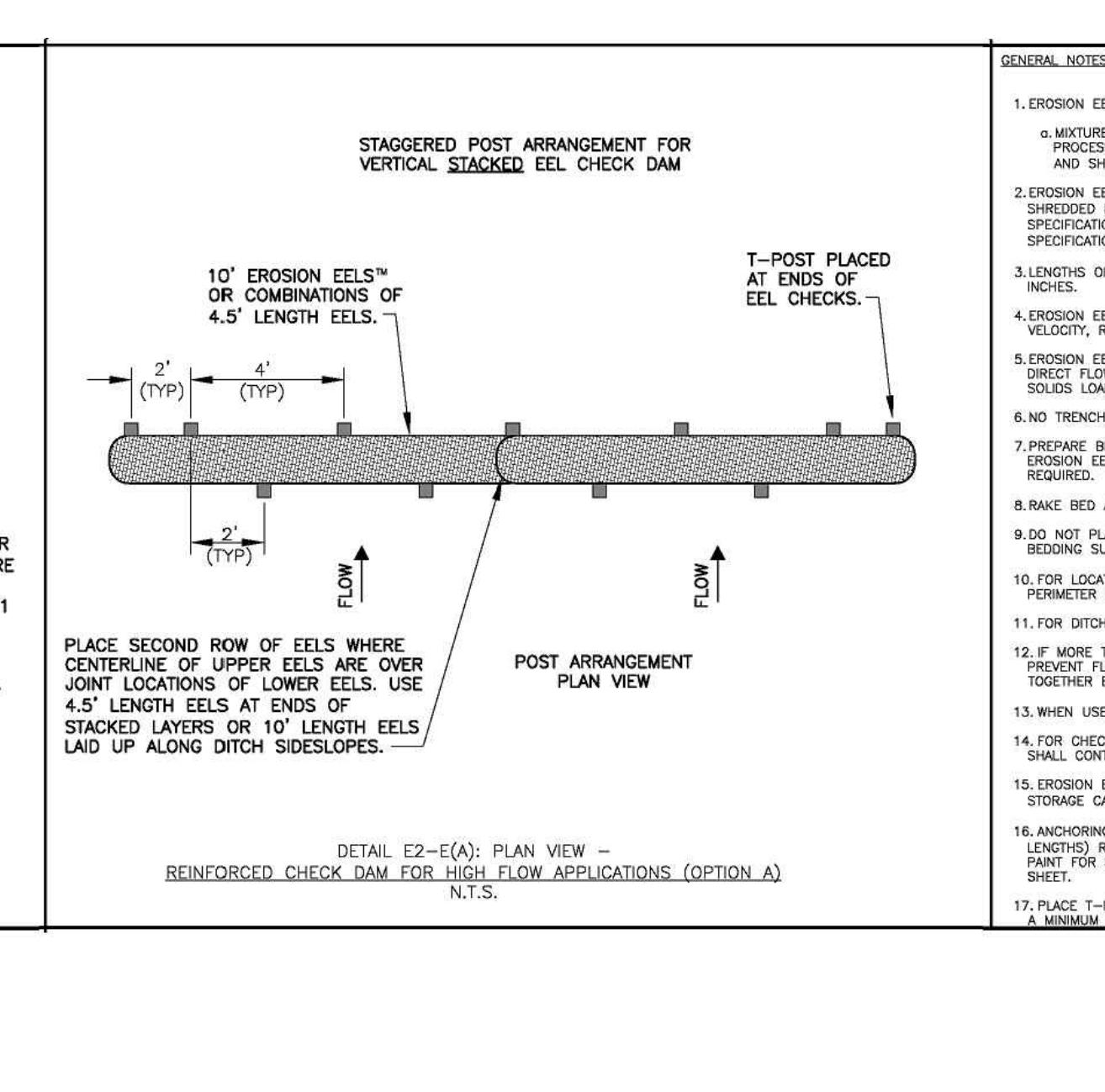
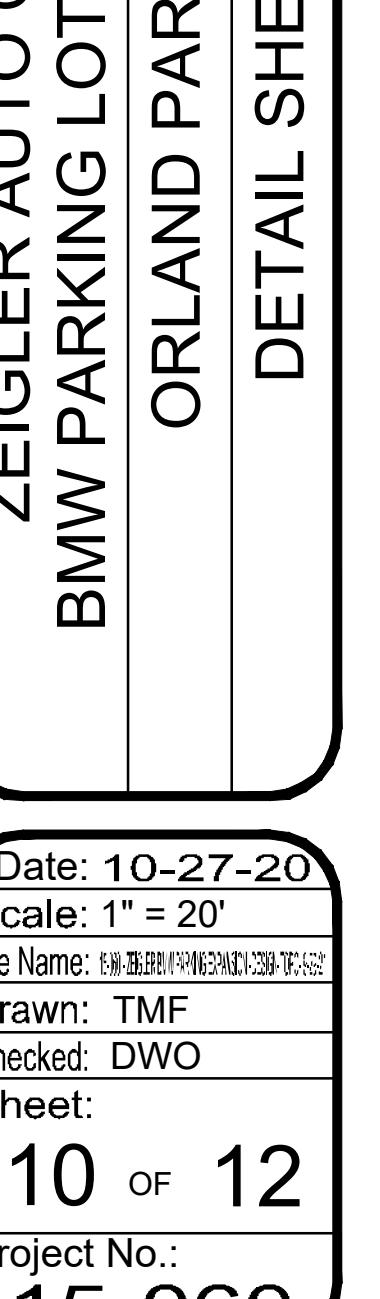
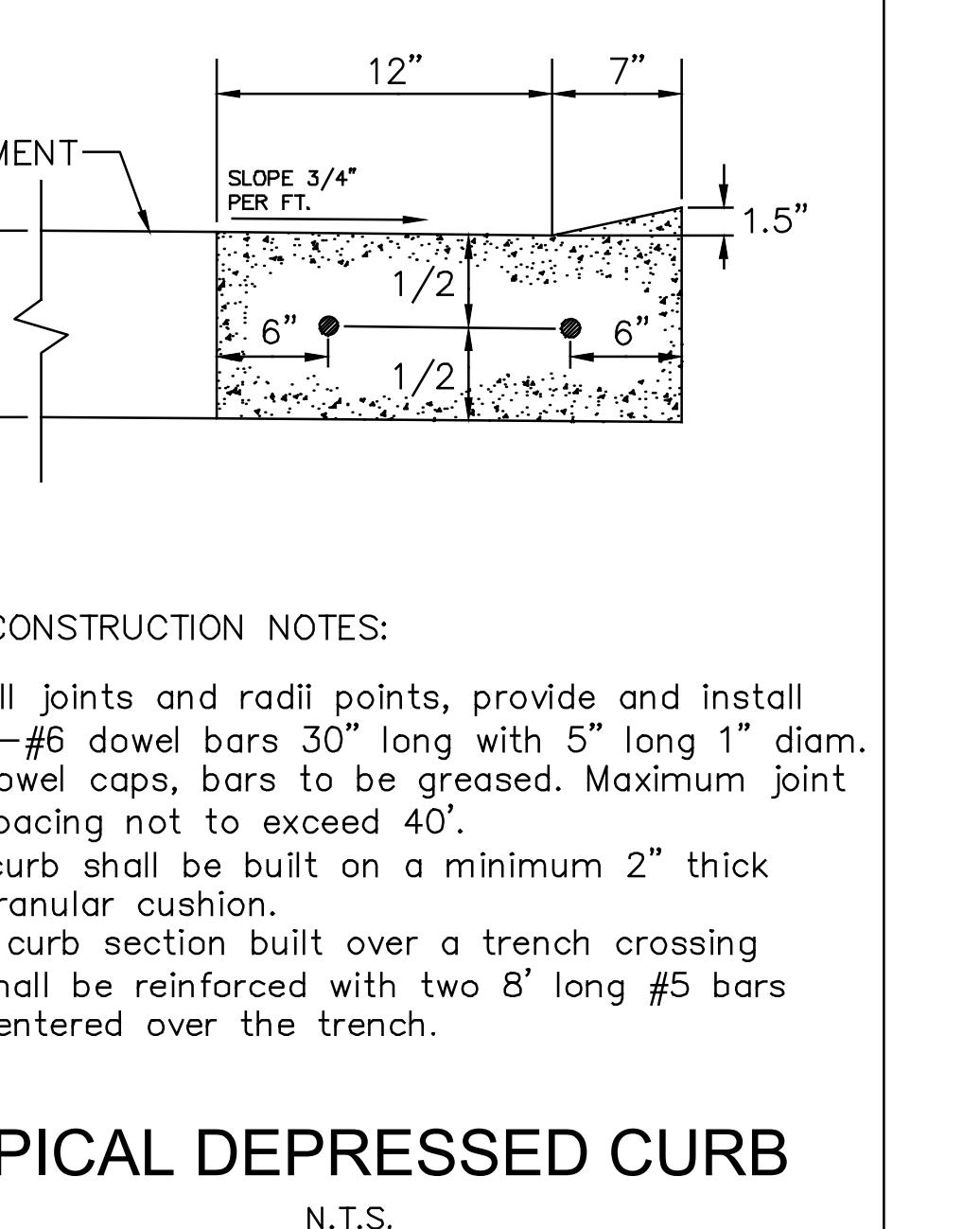
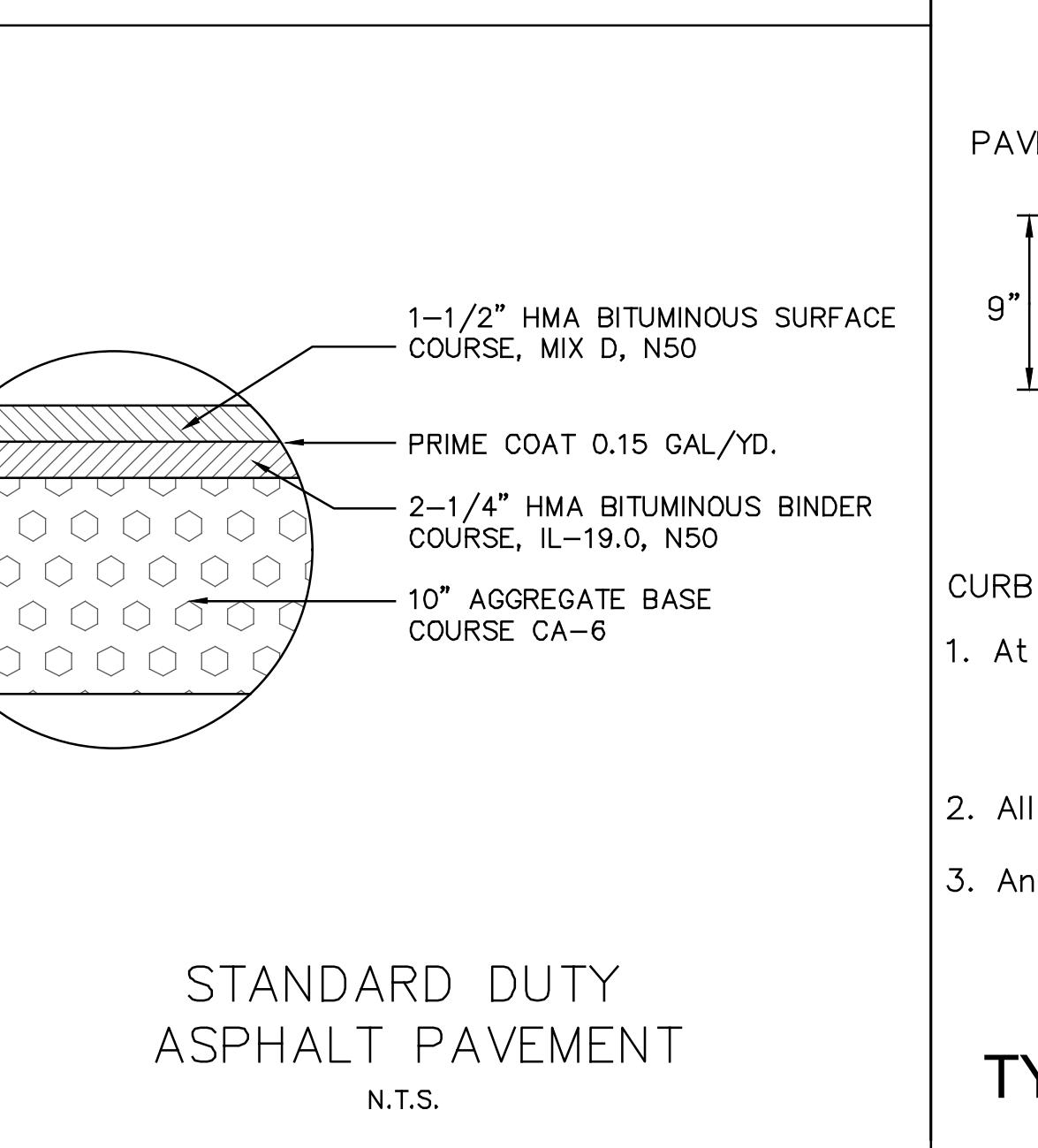
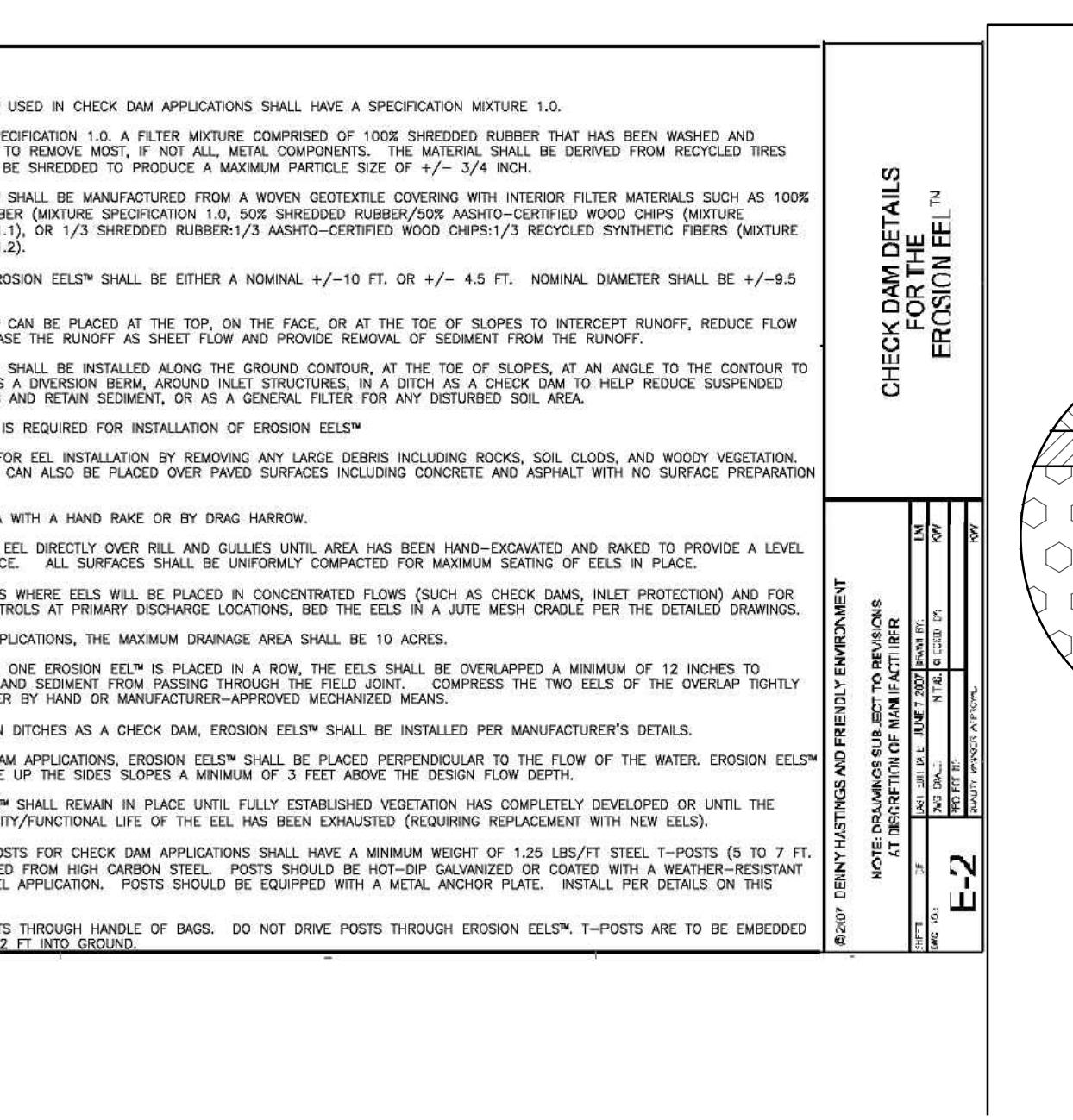


TYPICAL TRENCH SECTION IN PAVED AREAS	
N.T.S.	

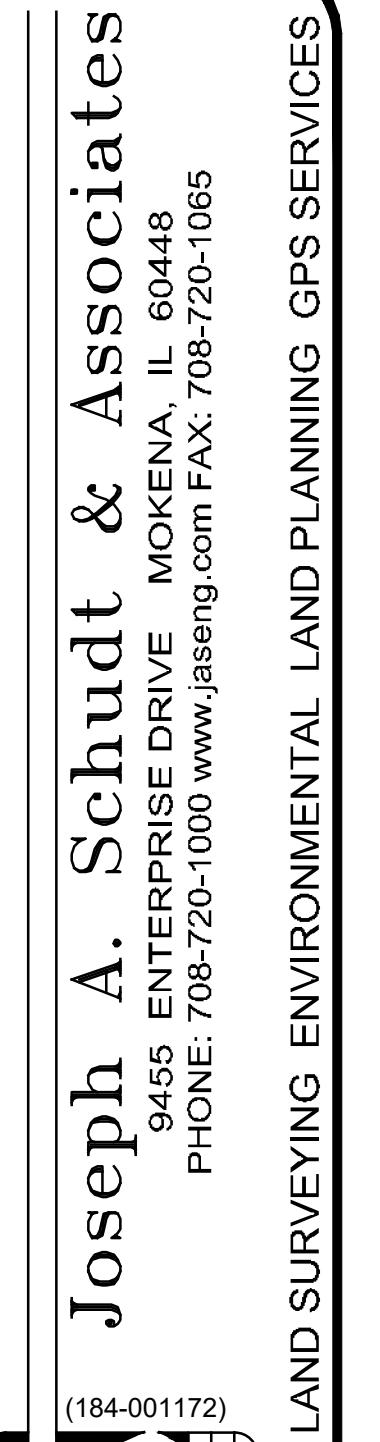


REVISIONS: 7-07-21	
4-10-01-21	4-11-11-21

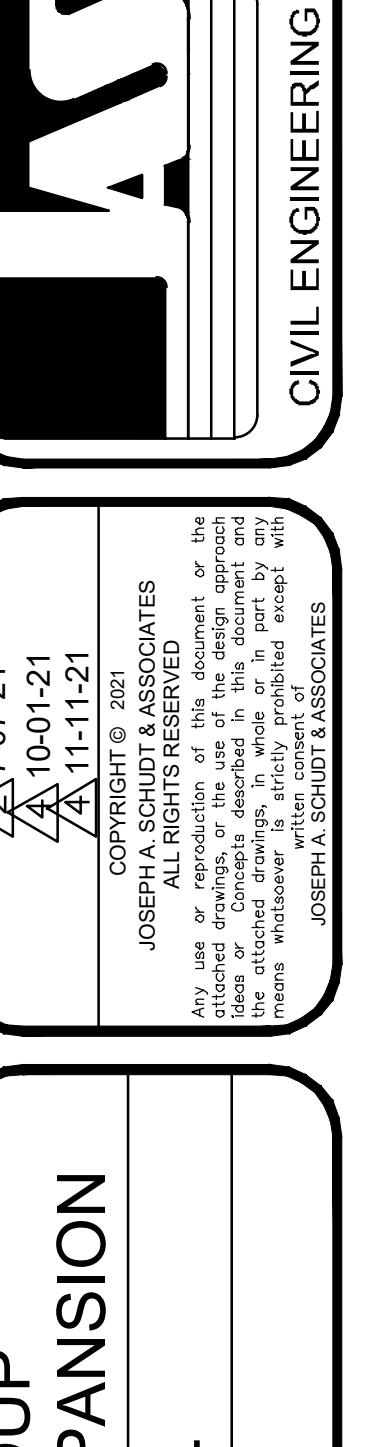
COPYRIGHT © 2021 JOSEPH A. SCHUDT & ASSOCIATES. ANY USE, REPRODUCTION, OR RESALE OF THIS DOCUMENT, OR PORTION THEREOF, OR THE USE OF THE DESIGN APPROACH OR DETAILS CONTAINED THEREIN, WITHOUT THE WRITTEN CONSENT OF THE ENGINEER, IS PROHIBITED EXCEPT AS AUTHORIZED IN THE CONTRACT DOCUMENTS.

DETAIL E2-1: ISOMETRIC VIEW - TREATMENT TIER APPROACH FOR SHEET FLOW EROSION
N.T.S.DETAIL E2-2: PLAN VIEW - REINFORCED CHECK DAM FOR HIGH FLOW APPLICATIONS (OPTION A)
N.T.S.

COPYRIGHT © 2021 JOSEPH A. SCHUDT & ASSOCIATES. ANY USE, REPRODUCTION, OR RESALE OF THIS DOCUMENT, OR PORTION THEREOF, OR THE USE OF THE DESIGN APPROACH OR DETAILS CONTAINED THEREIN, WITHOUT THE WRITTEN CONSENT OF THE ENGINEER, IS PROHIBITED EXCEPT AS AUTHORIZED IN THE CONTRACT DOCUMENTS.



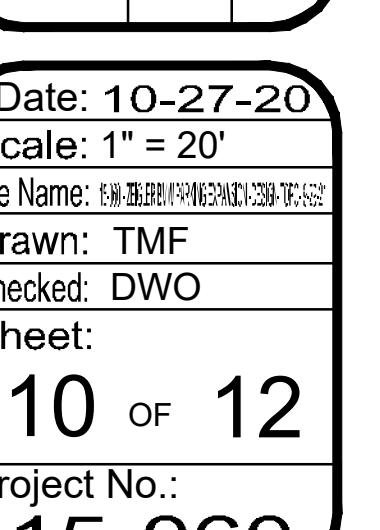
Joseph A. Schudt & Associates
9055 ENTERPRISE DRIVE
MOKENA, IL 60448
PHONE: 708-720-1000 www.jaseng.com FAX: 708-720-1065



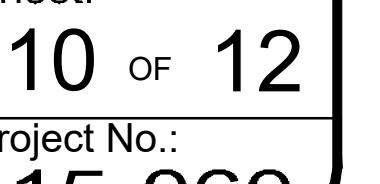
CIVIL ENGINEERING LAND PLANNING ENVIRONMENTAL SURVEYING

ZEIGLER AUTO GROUP
BMW PARKING LOT EXPANSION
ORLAND PARK, IL

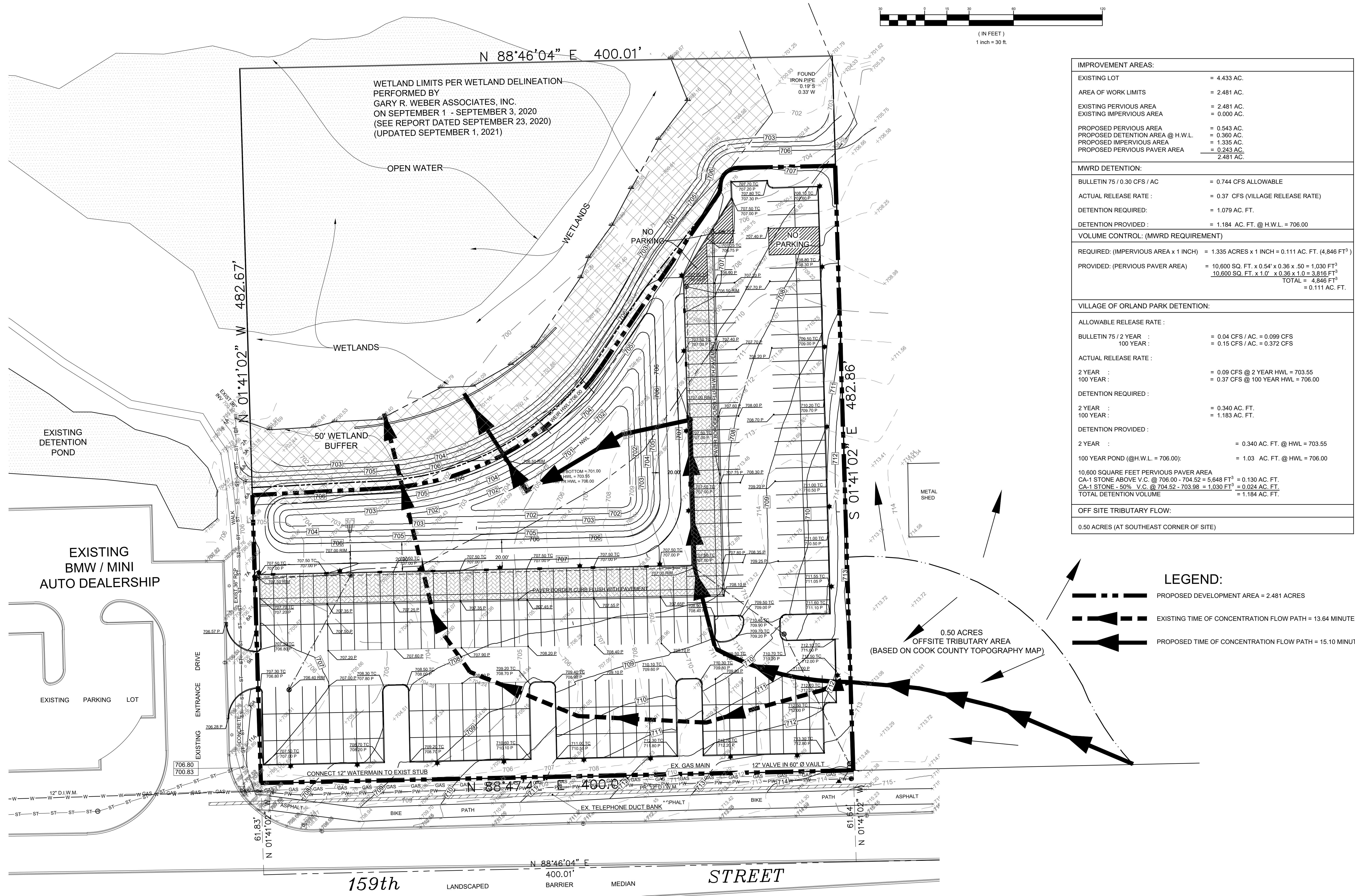
DETAIL SHEET



Date: 10-27-20
Scale: 1" = 20'
File Name: 15-060-ZEIGLER EX PARKING LOT EXPANSION
Drawn: TMF
Checked: DWO
Sheet:



10 OF 12
Project No.: 15-060



Date: 10-27-20
Scale: 1" = 30'
File Name: ~~10-27-20-1000-1000-1000~~
Drawn: TMF
Checked: DWO
Sheet:
11 OF 12
Project No.:
15-060

**ZEIGLER AUTO GROUP
BMW PARKING LOT EXPANSION
ORLAND PARK, IL
DRAINAGE EXHIBIT**

JAS

(184-001172)

Joseph A. Schudt & Associates

9455 ENTERPRISE DRIVE MOKENA, IL 60448
PHONE: 708-720-1000 FAX: 708-720-1065

CIVIL ENGINEERING LAND SURVEYING ENVIRONMENTAL LAND PLANNING GPS SERVICES

A. REFERENCED SPECIFICATIONS

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF THE FOLLOWING, EXCEPT AS MODIFIED HEREIN OR ON THE PLANS:
 - STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION), BY THE ILLINOIS DEPARTMENT OF TRANSPORTATION (IDOT SS) FOR ALL IMPROVEMENTS EXCEPT SANITARY SEWER AND WATER MAIN CONSTRUCTION;
 - STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS, LATEST EDITION (SSWS) FOR SANITARY SEWER AND WATER MAIN CONSTRUCTION;
 - VILLAGE OF ORLAND PARK MUNICIPAL CODE;
 - THE METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO (MWRD) WATERSHED MANAGEMENT ORDINANCE AND TECHNICAL GUIDANCE MANUAL;
 IN CASE OF CONFLICT BETWEEN THE APPLICABLE ORDINANCES NOTED, THE MORE STRINGENT SHALL TAKE PRECEDENCE AND SHALL CONTROL ALL CONSTRUCTION.
- NOTIFICATIONS**
 - THE MWRD LOCAL SEWER SYSTEM SECTION FIELD OFFICE MUST BE NOTIFIED AT LEAST TWO (2) WORKING DAYS PRIOR TO THE COMMENCEMENT OF ALL WORK (CALL 1-708-444-5500) AND
 - THE VILLAGE OF ORLAND PARK ENGINEERING DEPARTMENT AND PUBLIC WORKS MUST BE NOTIFIED AT LEAST 24 HOURS PRIOR TO THE START OF CONSTRUCTION AND PRIOR TO EACH PHASE OF WORK. CONTRACTOR SHALL DETERMINE ITEMS REQUIRING INSPECTION PRIOR TO START OF CONSTRUCTION OR EACH WORK PHASE.
 - THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES PRIOR TO BEGINNING CONSTRUCTION FOR THE EXACT LOCATIONS OF UTILITIES AND FOR THEIR PROTECTION DURING CONSTRUCTION. IF EXISTING UTILITIES ARE ENCOUNTERED THAT CONFLICT IN LOCATION WITH NEW CONSTRUCTION, IMMEDIATELY NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED. CALL J.U.L.I.E. AT 1-800-892-0123.
- GENERAL NOTES**
 - ALL ELEVATIONS SHOWN ON PLANS REFERENCE THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88). CONVERSION FACTOR IS 0.00 FT.
 - MWRD, THE MUNICIPALITY AND THE OWNER OR OWNER'S REPRESENTATIVE SHALL HAVE THE AUTHORITY TO INSPECT, APPROVE, AND REJECT THE CONSTRUCTION IMPROVEMENTS.
 - THE CONTRACTOR(S) SHALL INDEMNIFY THE OWNER, ENGINEER, MUNICIPALITY, MWRD, AND THEIR AGENTS, ETC., FROM ALL LIABILITY INVOLVED WITH THE CONSTRUCTION, INSTALLATION, OR TESTING OF THIS WORK ON THE PROJECT.
 - THE PROPOSED IMPROVEMENTS MUST BE CONSTRUCTED IN ACCORDANCE WITH THE ENGINEERING PLANS AS APPROVED BY MWRD AND THE MUNICIPALITY UNLESS CHANGES ARE APPROVED BY MWRD, THE MUNICIPALITY, OR AUTHORIZED AGENT. THE CONSTRUCTION DETAILS, AS PRESENTED ON THE PLANS, MUST BE FOLLOWED. PROPER CONSTRUCTION TECHNIQUES MUST BE FOLLOWED ON THE IMPROVEMENTS INDICATED ON THE PLANS.
 - THE LOCATION OF VARIOUS UNDERGROUND UTILITIES WHICH ARE SHOWN ON THE PLANS ARE FOR INFORMATION ONLY AND REPRESENT THE BEST KNOWLEDGE OF THE ENGINEER. VERIFY LOCATIONS AND ELEVATIONS PRIOR TO BEGINNING THE CONSTRUCTION OPERATIONS.
 - ANY EXISTING PAVEMENT, SIDEWALK, DRIVEWAY, ETC., DAMAGED DURING CONSTRUCTION OPERATIONS AND NOT CALLED FOR TO BE REMOVED SHALL BE REPLACED AT THE EXPENSE OF THE CONTRACTOR.
 - MATERIAL AND COMPACTION TESTING SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE MUNICIPALITY, MWRD, AND OWNER.
 - THE UNDERGROUND CONTRACTOR SHALL MAKE ALL NECESSARY ARRANGEMENTS TO NOTIFY ALL INSPECTION AGENCIES.
 - ALL NEW AND EXISTING UTILITY STRUCTURES ON SITE AND IN AREAS DISTURBED DURING CONSTRUCTION SHALL BE ADJUSTED TO FINISH GRADE PRIOR TO FINAL INSPECTION.
 - RECORD DRAWINGS SHALL BE KEPT BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER AS SOON AS UNDERGROUND IMPROVEMENTS ARE COMPLETED. FINAL PAYMENTS TO THE CONTRACTOR SHALL BE HELD UNTIL THEY ARE RECEIVED. ANY CHANGES IN LENGTH, LOCATION OR ALIGNMENT SHALL BE SHOWN IN RED. ALL WYES OR BENDS SHALL BE LOCATED FROM THE DOWNSTREAM MANHOLE. ALL VALVES, B-BOXES, TEES OR BENDS SHALL BE TIED TO A FIRE HYDRANT.
- SANITARY SEWER**
 - THE CONTRACTOR SHALL TAKE MEASURES TO PREVENT ANY POLLUTED WATER, SUCH AS GROUND AND SURFACE WATER, FROM ENTERING THE EXISTING SANITARY SEWERS.
 - A WATER-TIGHT PLUG SHALL BE INSTALLED IN THE DOWNSTREAM SEWER PIPE AT THE POINT OF SEWER CONNECTION PRIOR TO COMMENCING ANY SEWER CONSTRUCTION. THE PLUG SHALL REMAIN IN PLACE UNTIL REMOVAL IS AUTHORIZED BY THE MUNICIPALITY AND/OR MWRD AFTER THE SEWERS HAVE BEEN TESTED AND ACCEPTED.
 - DISCHARGING ANY UNPOLLUTED WATER INTO THE SANITARY SEWER SYSTEM FOR THE PURPOSE OF SEWER FLUSHING OR THE DEFLECTION TEST SHALL BE PROHIBITED WITHOUT PRIOR APPROVAL FROM THE MUNICIPALITY OR MWRD.
 - ALL SANITARY SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS (LATEST EDITION).
 - ALL FLOOR DRAINS SHALL DISCHARGE TO THE SANITARY SEWER SYSTEM.
 - ALL DOWNSPOUTS AND FOOTING DRAINS SHALL DISCHARGE TO THE STORM SEWER SYSTEM.
 - ALL SANITARY SEWER PIPE MATERIALS AND JOINTS (AND STORM SEWER PIPE MATERIALS AND JOINTS IN A COMBINED SEWER AREA) SHALL CONFORM TO THE FOLLOWING:

PIPE MATERIAL	PIPE SPECIFICATIONS	JOINT SPECIFICATIONS
VITRIFIED CLAY PIPE	ASTM C-700	ASTM C-425
REINFORCED CONCRETE SEWER PIPE	ASTM C-76	ASTM C-443
CAST IRON SOIL PIPE	ANSI A21.51	ANSI A21.11
DUCTILE IRON PIPE	ANSI A21.51	ANSI A21.11
POLYVINYL CHLORIDE (PVC) PIPE 6-INCH TO 15-INCH DIAMETER SDR 26 18-INCH TO 27-INCH DIAMETER F/DY=46	ASTM D-3034 ASTM F-679	ASTM D-2855 OR ASTM D-3212 ASTM D-3212
HIGH DENSITY POLYETHYLENE (HDPE)	ASTM D-3350	ASTM D-3261
WATER MAIN QUALITY PVC 4-INCH TO 36-INCH 4-INCH TO 12-INCH 14-INCH TO 48-INCH	ASTM D-2241 AWWA C900 AWWA C905	ASTM D-2672 OR ASTM D-3139 ASTM D-3212 ASTM D-3212

- ALL SANITARY SEWER CONSTRUCTION (AND STORM SEWER CONSTRUCTION IN COMBINED SEWER AREAS), REQUIRES STONE BEDDING WITH STONE $\frac{1}{4}$ TO 1 IN. IN SIZE, WITH MINIMUM BEDDING THICKNESS EQUAL TO $\frac{1}{4}$ THE OUTSIDE DIAMETER OF THE SEWER PIPE, BUT NOT LESS THAN FOUR (4) INCHES NOR MORE THAN EIGHT (8) INCHES. MATERIAL SHALL BE CA-11 OR CA-13 AND SHALL BE EXTENDED AT LEAST 12" ABOVE THE TOP OF THE PIPE WHEN USING PVC.
- BAND SEAL OR SIMILAR NON-SHEAR FLEXIBLE-TYPE COUPLINGS SHALL BE USED IN THE CONNECTION OF SEWER PIPES OR DISIMILAR MATERIALS.
- ALL MANHOLES SHALL BE PROVIDED WITH BOLTED, WATERTIGHT COVERS, SANITARY LIDS SHALL BE CONSTRUCTED WITH A CONCEALED PICKHOLE AND A WATERTIGHT GASKET WITH THE WORD SANITARY CAST INTO THE LID.
- WHEN CONNECTING TO AN EXISTING SEWER MAIN BY MEANS OTHER THAN AN EXISTING WYE, TEE, OR AN EXISTING MANHOLE, ONE OF THE FOLLOWING METHODS SHALL BE USED:
 - A CIRCULAR SAW-CUT OF SEWER MAIN BY PROPER TOOLS ("SEWER-TAP" MACHINE OR SIMILAR) AND PROPER INSTALLATION OF HUBWEY SADDLE OR HUB-TEE SADDLE.
 - REMOVE AN ENTIRE SECTION OF PIPE (BREAKING ONLY THE TOP OF ONE BELL) AND REPLACE WITH A WYE OR TEE BRANCH SECTION.
 - WITH PIPE CUTTER, NEATLY AND ACCURATELY CUT OUT DESIRED LENGTH OF PIPE FOR INSERTION OF PROPER FITTING, USING BAND SEAL OR SIMILAR COUPLINGS TO HOLD IT FIRMLY IN PLACE.
- WHENEVER A SANITARY/COMBINED SEWER CROSSES UNDER A WATERMAIN, THE MINIMUM VERTICAL DISTANCE FROM THE TOP OF THE SEWER TO THE BOTTOM OF THE WATERMAIN SHALL BE 18 INCHES. THEREFORE, A MINIMUM HORIZONTAL DISTANCE OF 18 FEET BETWEEN SANITARY/COMBINED SEWERS AND WATERMAINS SHALL BE MAINTAINED UNLESS: THE SEWER IS LAID IN A SEPARATE TRENCH WITH THE WATERMAIN LOCATED AT THE OPPOSITE SIDE ON A BENCH OF UNDISTURBED EARTH, KEEPING A MINIMUM 18" VERTICAL SEPARATION. IF EITHER THE VERTICAL OR HORIZONTAL DISTANCES DESCRIBED ABOVE CANNOT BE MAINTAINED, OR THE SEWER CROSSES ABOVE THE WATERMAIN, THE SEWER SHALL BE CONSTRUCTED TO WATERMAIN STANDARDS.
- ALL EXISTING SEPTIC SYSTEMS SHALL BE ABANDONED. ABANDONED TANKS SHALL BE FILLED WITH GRANULAR MATERIAL OR REMOVED.
- ALL SANITARY MANHOLES, (AND STORM MANHOLES IN COMBINED SEWER AREAS), SHALL HAVE A MINIMUM INSIDE DIAMETER OF 48 INCHES, AND SHALL BE CAST IN PLACE OR PRE-CAST REINFORCED CONCRETE.
- ALL SANITARY MANHOLES, (AND STORM MANHOLES IN COMBINED SEWER AREAS), SHALL HAVE PRECAST RUBBER BOOTS THAT CONFORM TO ASTM C-923 FOR ALL PIPE CONNECTIONS. PRECAST SECTIONS SHALL CONSIST OF MODIFIED GROOVE TONGUE AND RUBBER GASKET TYPE JOINTS.
- ALL ABANDONED SANITARY SEWERS SHALL BE PLUGGED AT BOTH ENDS WITH AT LEAST 2 FEET LONG NON-SHRINK CONCRETE OR MORTAR PLUG.
- EXCEPT FOR FOUNDATION/FOOTING DRAINS PROVIDED TO PROTECT BUILDINGS, OR PERFORATED PIPES ASSOCIATED WITH VOLUME CONTROL FACILITIES, DRAIN TILES/FIELD TILES/UNDERDRAINS/PERFORATED PIPES ARE NOT ALLOWED TO BE CONNECTED TO OR TRIBUTARY TO COMBINED SEWERS, SANITARY SEWERS, OR STORM SEWERS TRIBUTARY TO COMBINED SEWERS IN COMBINED SEWER AREAS. CONSTRUCTION OF NEW FACILITIES OF THIS TYPE IS PROHIBITED. AND ALL EXISTING DRAIN TILES AND PERFORATED PIPES ENCOUNTERED WITHIN THE PROJECT AREA SHALL BE PLUGGED OR REMOVED, AND SHALL NOT BE CONNECTED TO COMBINED SEWERS, SANITARY SEWERS, OR STORM SEWERS TRIBUTARY TO COMBINED SEWERS.
- A BACKFLOW PREVENTER IS REQUIRED FOR ALL DETENTION BASINS TRIBUTARY TO COMBINED SEWERS. REQUIRED BACKFLOW PREVENTER SHALL BE DESIGNED AND EXCUSED BY THE MUNICIPALITY OR MWRD OWNER. ENSURE PROPER OPERATION, AND ANY NECESSARY MAINTENANCE SHALL BE PERFORMED TO ENSURE FUNCTIONALITY. IN THE EVENT OF A SEWER SURCHARGE INTO AN OPEN DETENTION BASIN TRIBUTARY TO COMBINED SEWERS, THE PERMITTEE SHALL ENSURE THAT CLEAN UP AND WASH OUT OF SEWAGE TAKES PLACE WITHIN 48 HOURS OF THE STORM EVENT.

E. EROSION AND SEDIMENT CONTROL

- THE CONTRACTOR SHALL INSTALL THE EROSION AND SEDIMENT CONTROL DEVICES AS SHOWN ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
- EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE FUNCTIONAL PRIOR TO HYDROLOGIC DISTURBANCE OF THE SITE.
- ALL DESIGN CRITERIA, SPECIFICATIONS, AND INSTALLATION OF EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE IN ACCORDANCE WITH THE ILLINOIS URBAN MANUAL.
- A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
- INSPECTIONS AND DOCUMENTATION SHALL BE PERFORMED, AT A MINIMUM:
 - UPON COMPLETION OF EROSION AND SEDIMENT CONTROL MEASURES, PRIOR TO ANY SOIL DISTURBANCE.
 - ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM EVENT WITH GREATER THAN 0.5 INCH OF RAINFALL OR LIQUID EQUIVALENT PRECIPITATION.
- SOIL DISTURBANCE SHALL BE CONDUCTED IN SUCH A MANNER AS TO MINIMIZE EROSION. IF STRIPPING, CLEARING, GRADING, OR LANDSCAPING ARE TO BE DONE IN PHASES, THE CO-PERMITTEE SHALL PLAN FOR APPROPRIATE SOIL EROSION AND SEDIMENT CONTROL MEASURES.
- A STABILIZED MAT OF CRUSHED STONE MEETING THE STANDARDS OF THE ILLINOIS URBAN MANUAL SHALL BE INSTALLED AT ANY POINT WHERE TRAFFIC WILL BE ENTERING OR LEAVING A CONSTRUCTION AREA OR WORKING AREA, PROVIDED PUBLIC RIGHT-OF-WAY, STREET, ALLEY, OR PARKING AREA SHALL BE REMOVED BY SCRAPING OR GREEN CLEANING AS ACCUMULATIONS WARRANT AND TRANSPORTED TO A CONTROLLED SEDIMENT DISPOSAL AREA.
- CONCRETE WASHOUT FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE ILLINOIS URBAN MANUAL AND SHALL BE INSTALLED PRIOR TO ANY ON SITE CONSTRUCTION ACTIVITIES INVOLVING CONCRETE.
- TEMPORARY DIVERSIONS SHALL BE CONSTRUCTED AS NECESSARY TO DIRECT ALL RUNOFF FROM HYDROLOGICALLY DISTURBED AREAS TO AN APPROPRIATE SEDIMENT TRAP OR BASIN. VOLUME CONTROL FACILITIES SHALL NOT BE USED AS TEMPORARY SEDIMENT BASINS.
- DISTURBED AREAS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED SHALL BE STABILIZED WITH TEMPORARY OR PERMANENT MEASURES WITHIN SEVEN (7) DAYS.
- ALL FLOOD PROTECTION AREAS AND VOLUME CONTROL FACILITIES SHALL, AT A MINIMUM, BE PROTECTED WITH A DOUBLE-ROW OF SILT FENCE (OR EQUIVALENT).
- VOLUME CONTROL FACILITIES SHALL NOT BE CONSTRUCTED UNTIL ALL OF THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.

Joseph A. Schudt & Associates
9455 ENTERPRISE DRIVE MOKENA, IL 60448
PHONE: 708-720-1000 www.jaseng.com FAX: 708-720-1065

(184-001172)

REVISIONS:
COPRIGHT © 2021 JOSEPH A. SCHUDT & ASSOCIATES
Any use or reproduction of this document or its drawings, or the use of the design approach or design details shown, without the express written consent of the owner, is strictly prohibited except as otherwise provided in the attached drawings, in writing, or in any other manner whatsoever.

ZEIGLER AUTO GROUP
BMW PARKING LOT EXPANSION
ORLAND PARK, IL

Date: 10-27-20
Scale: 1" = 20'
File Name: 15-060-ZEIGLER EXTPARKING-15-060-ZEIGLER BMW PARKING EXPANSION-DESIGN-TOPO-8-20-21-12 MWRD Pwded: 12/6/2021 8:29 AM By: TFlonicl Copyright: 2020 - JOSEPH A. SCHUDT & ASSOCIATES
Drawn: TMF
Checked: DWO
Sheet:
12 OF 12
Project No.: 15-060