Call to Order

Roll Call

1. Call to Audience: Persons wishing to address the Commission on any matter may do so at the discretion of the Chair. However, Arizona Open Meeting Law limits Commission discussion to matters listed on the posted agenda. Other topics may be placed on a future agenda for discussion.

2. CONSIDERATION OF MEETING MINUTES: 01/21/2016

3. Request for a certificate of appropriateness approving proposed alterations to Tempe (Hayden) Butte for STEEL TANK RESERVOIR REHABILITATION – HAYDEN BUTTE WEST, located at 222 East 5th Street.

4. Discuss and consider Papago Park Preserve proposal – Darlene Justus

5. Chair / Staff Updates

Current Events / Announcements / Future Agenda Items

- Member Announcements
- Staff Announcements

Adjourn

For further information on the above agenda items, contact Community Development, Planning Division (480) 350-8331. Agenda items may not be heard in the order listed. The City of Tempe endeavors to make all public meetings accessible to persons with disabilities. With 48 hours advance notice, special assistance is available at public meetings for sight and/or hearing-impaired persons. Please call 350-8331 (voice) or 350-8400 (TDD) to request an accommodation to participate in a public meeting.
Agenda Item 2
Chair Gregory called the meeting to order at 6:03 pm

1. Call to Audience:
   - THPF representative asks that HPO consider a Papago Park Preserve Protection Plan for agendized discussion at a future meeting.

2. Consideration of meeting minutes: 11/12/2015

Commissioner Bilsbarrow moved the Commission to approve the November 12, 2015 minutes as written. The motion was seconded by Commissioner Turner and passed with a vote of 7-0.

3. Request for a certificate of appropriateness proposed for redevelopment of portions of the St. Mary's Church / Our Lady of Mt. Carmel Catholic Church parcel for THE MAXWELL, located at 712 South College Avenue. The applicant is Tony Wall of Maxwell Tempe, LLC.
   - Trevor Barger made a presentation on behalf of applicant – notes importance of the church to nearby community and ASU students
   - Overview of recent additions to Newman Center on the St. Mary’s Church property
   - Description of previous dormitory housing proposals for the site
   - Explanation of how proposal for The Maxwell differs from the previous proposals, in terms of height, structures, architecture, and distance from historic church
   - Purpose is to build faith-based student housing
   - Overview of development plans – two residential towers and a 4-story building transitioning from the historic church to the towers
   - Developer is incorporating the same architectural designs as the adjacent College Avenue Commons building
   - Detailed explanation of architectural transitions from historic to modern structures on the site
   - Q: Does the 20-foot encroachment onto the College Avenue right-of-way obstruct the southward-looking view on College Avenue?
     - A: The design will match the existing setback for College Avenue Commons
   - Q: What is the logic behind the charcoal-colored patterning on the 4-story structure?
- A: This is intended to complement but not mimic the color and pattern scheme on the historic church – compatible but distinct
- Discussion of prior collaboration between St. Mary’s Church / Newman Center and City of Tempe on construction projects, including ADA ramp
- Discussion on the window design for the 4-story structure, and explanation of why the design is rectangular and not rounded (to keep a compatible but distinct design that differentiates the historic from the new)
- Protection Plan would have to be approved by the Historic Preservation Officer, but would not require HPC approval

Commissioner Proper moved the Commission to approve the certificate of appropriateness with staff recommendation that a protection plan be reviewed and approved by HPO prior to commencement of work. The motion was seconded by Commissioner Solliday and passed with a vote of 7-0.

4. One-Hundred-Mill (Charles T. Hayden House / Monti’s La Casa Vieja) project update – Manjula Vaz (Gammage & Burnham)

- Presentation by Manjula Vaz on project progress: plat recently approved, façade conservation easement for entirety of the 1873-1924 building and airspace easement to be delivered prior to commencing onsite work
- Kimpton hotel under contract to occupy one tower; working with potential restaurant tenants; will likely be at least two restaurants in historic Hayden House itself
- Government Property Lease Excise Tax (GPLET) sets requirements that must be complied with: various easements; parking; time schedule; preservation and protection plan
- Geotechnical engineer and geologist have both been hired for soil evaluation
- Below-ground excavation will be 7-10 feet away from historic structure
- Explanation of trenching plan and pre-construction evaluation plan
- Overview of demolition and preservation plans
- 3 major tasks: demolition plan and precise documentation of existing structure; detailed Historic American Building Survey (HABS) documentation; protection plan for historic building (PAD item #18)
- Discussion of construction methods and techniques (Greg Burghardt, Hensel-Phelps representative)
- Soil-shoring system will prevent possible cave-ins and would remain permanently in place once construction is completed
- Soil-synching would be done incrementally as excavation goes deeper, and would strengthen the soil below the existing Hayden House foundation
- Contractor will have a full-time superintendent on-site to monitor all activity while work is being done
- Developer has submitted protection and demolition plans and will meet with city staff in coming days; developer will return to HPC with project update in 2-3 months
- Status of PAD conditions of approval: HABS report mostly complete; archaeological monitoring plan has been revised and is pending approval from AZ State Museum; protection plan has been submitted and is pending city approval
- Public comment: if damage to the Hayden House occurs during construction, work should stop immediately
- Public comment: the adobe structure cannot sit vacant for long periods of time without deteriorating; comparison to recent work on the adobe at Eisendrath House; recommendation that developers hire an adobe consultant and arrange for regular upkeep and maintenance on the historic structure while it remains unoccupied
- Public comment: 7-10 foot excavation setback between below-ground parking garage and historic structure is not adequate; request to consider moving back to a minimum of 10 feet at all places on the site
- Public comment: request that excavation (for wiring, pipes, etc.) in that 7-10 foot interstitial space be done by hand to minimize vibration and possible damage to historic structure
- Members of the public provide extensive written comments to staff and commissioners regarding the demolition and protection plan – ask that staff and commissioners review those comments at their leisure
Historic Preservation Commission Minutes  
January 21, 2016

- Q: Is soil-shoring described in the protection plan?  
  A: Yes, in appendix C  
- Q: What constitutes “irreparable damage” as quoted in the demolition and protection plans, and who makes the determination on whether or not “irreparable damage” has occurred?  
  A: City staff (community development director)

5. Tempe (Hayden) Butte Management Plan Overview – Bonnie Richardson (City of Tempe)

- Overview of radio antennas and towers on Tempe Butte and the difficulties entailed in their removal
- Landscape architect provides overview of master plan: natural components and human history are the two areas of focus
- This is only a municipal plan (not state or federal)
- Discussion on need for archaeological awareness and sensitivity during work on Tempe Butte
- This project is only intended to create a written plan and will conduct no actual physical or ground-disturbing work on the site
- Collaboration with SRP-MIC ongoing
- Discussion of city grant from SRP-MIC and conditions pertaining to Tempe Butte
- Discussion about holiday displays on Tempe Butte

6. Urban Forestry Master Plan Overview – Bonnie Richardson (City of Tempe)

- Background information on project and its purposes
- Overview of Urban Forestry Master Plan
- Key project goals: urban cooling; walkability; reduction of heat island effect; wise use of water; shade expansion; increase property values; support biodiversity; respect habitat; preserve viewsheds
- $100,000 grant received for Urban Forestry project; explanation of upcoming events and outreach initiatives
- Discussion of HOA participation in program and potential challenges

7. Chair / Staff Updates

- Southard named new chair of Scottsdale Historic Preservation Commission
- Date Palm Manor and Tomlinson Estates have both been officially added to the National Register
- Tomlinson Estates design guidelines are ongoing
- Charlie Lee has resigned from HPC and will be replaces with a new professional member; Anne Bilsbarrow’s term ends in March and she too will be replaced by a new professional appointment; Brenda Shears will be relocating and her HPC position will be filled with a new at-large member.

Chair Gregory adjourned the meeting at 8:26 p.m.

Prepared by:  Billy Kiser, HPO Intern

Reviewed by:  John Larsen Southard, Senior Planner / Historic Preservation Officer

Andrea Gregory, Chair
Agenda Item 3
**CITY OF TEMPE**  
**HISTORIC PRESERVATION COMMISSION**  

**Meeting Date:** 02/11/2016  
**Agenda Item:** 3

**ACTION:** Request for a certificate of appropriateness approving proposed alterations to Tempe (Hayden) Butte for STEEL TANK RESERVOIR REHABILITATION – HAYDEN BUTTE WEST RESERVOIR, located at 222 East 5th Street. The applicant is Andrew J. Romance, P.E., of Dibble Engineering.

**RECOMMENDATION:** Staff – Approval, subject to conditions

**BACKGROUND INFORMATION:** STEEL TANK RESERVOIR REHABILITATION – HAYDEN BUTTE WEST RESERVOIR (HP010816A / CIP3205851) Applicant submitted plans for the rehabilitation of an existing two-million gallon steel water tank, installation of associated yard piping, and the installation of safety equipment.

The request is as follows:

HP010816A Approve a Certificate of Appropriateness for proposed alterations to Tempe (Hayden) Butte for STEEL TANK RESERVOIR REHABILITATION – HAYDEN BUTTE WEST RESERVOIR.

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**Existing Property Owner**  
City of Tempe  
**Applicant**  
Andrew J. Romance, P.E., Dibble Engineering

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**ATTACHMENTS:**  
Steel Reservoir Rehabilitation – Hayden Butte West Reservoir Project Plans (30 sheets)

**STAFF CONTACT(S):**  
John Larsen Southard, Historic Preservation Officer / Senior Planner (480) 350-8870

Department Director: Dave Nakagawara, Community Development Director
Legal review by: N/A
Prepared by: John Larsen Southard, Historic Preservation Officer / Senior Planner
COMMENTS:

This site is located on the south slope of Tempe Butte, north of East 5th Street and west of the College Avenue alignment. Existing uses on the site include two steel tank reservoirs and associated equipment.

This request includes the following:

1. Certificate of Appropriateness

The applicant is requesting the Historic Preservation Commission take action on the above item.

HISTORIC PRESERVATION COMMISSION JURISDICTION

Tempe (Hayden) Butte is listed in the Tempe Historic Property Register, thereby necessitating Historic Preservation Office or Historic Preservation Commission review and decisioning of this project. As the potential impact on the designated resource cannot be reasonably classified as “obviously minor in nature,” the Tempe Historic Preservation Ordinance requires Historic Preservation Commission review and decisioning.

PUBLIC INPUT

- Neighborhood meeting not required

- Representatives of both the Salt River Pima-Maricopa Indian Community and the Gila River Indian Community have participated in site visits, in-person discussions, e-mail correspondence, and telephone conversations with City of Tempe staff in relation to the Tempe Butte reservoir rehabilitation project.

PROJECT DESCRIPTION

Several years ago the City of Tempe commissioned a condition evaluation of four water storage tanks, collectively referred to as the “Butte Tanks”. The Hayden East Water Storage tank is the smaller of two water storage tanks on the north face of Hayden Butte, also known locally as "A-Mountain".

The condition evaluation recommendations included rehabilitation of the roof trusses, replacement of corroded steel, piping, and valves, rehabilitation of corrosion resisting features of the tank, safety improvements including anti-fall devices, and constructing an overflow line. The overflow line allows the tank to be drained to the existing storm water collection system further down the hill without causing an erosion issue downstream of the tank site. Upon project completion, the Hayden West tank will look largely the same as it appears now.

Many components of this submission relate solely to interior work that qualifies as “obviously minor in nature.” Project components exceeding the scope of the “obviously minor in nature” test found in the Tempe Historic Preservation Ordinance are as follows:

- Installation of 118 linear feet 18” drainage line running to the northwestern terminus of the phase one drainage line. The pipe will be laid in a newly excavated 3 to 4-foot deep trench that will then be backfilled with material removed during the excavation of said trench, thereby diminishing the trench’s visual impact.

- Installation of a 6” perimeter foundation drain along the circumference of the Hayden Butte West Reservoir
- Application of an outer coating system (“OCS”) to the Hayden Butte West Reservoir exterior and other exposed ferrous surfaces within project area

- Removal and replacement of 86 linear feet of chain link fence and appurtenances

- Removal of 125 square feet of concrete sidewalk and steps

- Slope management / rock fall protection measures to be undertaken by the contractor and, subsequently, the City of Tempe

**PROJECT ANALYSIS**

This project is the second phase of a two-phase rehabilitation of the two City of Tempe welded steel water tanks located on the south slope of Tempe (Hayden) Butte immediately west of the College Avenue alignment. Initial discussions involved multiple downslope drainage lines and other invasive actions that would negatively impact undisturbed areas of the butte. After consulting with the Tempe Historic Preservation Office and the Salt River Pima-Maricopa Indian Community Cultural Resources Department and the Gila River Indian Community Tribal Historic Preservation Office, the applicant submitted a revised phase one proposal that satisfactorily addresses the concerns voiced by the three entities listed above. The applicant’s phase two proposal includes a similar level of care and sensitivity as relates to the historic and cultural resources in and around the project area.

**STAFF RECOMMENDATION**

**APPROVAL – WITH THE FOLLOWING CONDITIONS:**

- All personnel (City staff, contractors, etc.) involved in planning, managing, or executing ground disturbing activities must attend the Salt River Pima-Maricopa Indian Community Cultural Sensitivity Training course prior to commencing on-site work.

- An archaeological monitor is to be on hand for all ground-disturbing activity. Review, documentation, and disposition of any prehistoric artifacts located during phase one work to be coordinated with the Tempe Historic Preservation Officer and the Salt River Pima Maricopa Indian Community Cultural Resources Department.

- The OCS will be colored to match the natural surroundings as closely as possible. Final color to be selected in consultation with the Tempe Historic Preservation Officer and the Salt River Pima-Maricopa Indian Community Cultural Resources Department.

- Slope management / rock fall protection measures involving ground disturbing activity, whether carried out by the contractor or the City, must receive Historic Preservation Officer approval prior to commencement.

- Any material changes to the plans dated January 8th, 2016 must be reviewed and approved by the Tempe Historic Preservation Officer.

**HISTORY & FACTS:**

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
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<tbody>
<tr>
<td>1950</td>
<td>Welded steel water tank presently referred to as Hayden Butte East Reservoir constructed to replace an aging concrete reservoir</td>
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<tr>
<td>ca. 1960s</td>
<td>Second welded steel water tank constructed to the west of the 1950 reservoir</td>
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<tr>
<td>January 13, 1983</td>
<td>Tempe (Hayden) Butte designated a city park</td>
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<tr>
<td>August 8, 2002</td>
<td>Tempe City Council passes Resolution 2002.43, thereby establishing the Hayden Butte Preserve</td>
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<tr>
<td>August 14, 2008</td>
<td>City-owned portions of Tempe (Hayden) Butte added to the Tempe Historic Property Register</td>
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June 9, 2015  HPO Southard, Chair Gregory, Mark Weber, and SRP-MIC representatives Shane Anton, Matt Garza, and Tom Wright visit the project site to discuss specifics of the proposed work

September 3, 2015  HPO Southard, Ken Snow (City of Tempe Public Works Department), SRP-MIC representatives Shane Anton and Tom Wright, and GRIC representatives Larry Benallie and Reylynne Williams visit the project site to discuss specifics of the proposed work

September 17, 2015  STEEL TANK RESERVOIR REHABILITATION – HAYDEN BUTTE EAST RESERVOIR project submitted by Andrew Roman, P.E., of Dibble Engineering

January 8, 2016  STEEL TANK RESERVOIR REHABILITATION – HAYDEN BUTTE WEST RESERVOIR project plans stamped by Andrew Roman, P.E., of Dibble Engineering
ENGINEER'S NOTES (CONT.)

5. RESERVOIR DRAIN LINE IS DESIGNED TO DRAIN OVERFLOW CAPACITY OF THE RESERVOIR IN A MANNER SUITABLE FOR THE CITY NOT TO BE DISCONNECTED DURING NON-EMERGENCY IN-FLIGHT SERVICES. DRAIN LINE IS TO BE PROVIDED ACCORDING TO THE SPECIFICATIONS FOR RESERVOIR DRAINAGE.

13. CONTRACTOR SHALL OBTAIN A PERMIT TO INSTALL A REPEATER TRANSMITTER AT THE LOCATION WHERE THE REPEATER WILL BE INSTALLED. THE REPEATER TRANSMITTER MUST BE INSTALLED IN ACCORDANCE WITH THE SPECIFICATIONS FOR REPEATER TRANSMITTERS AND IN COMPLIANCE WITH THE LOCAL CODES AND REGULATIONS.

14. CONTRACTOR SHALL USE EXTREME CARE WHILE WORKING IN THE VICINITY OF ALL POWER LINES. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT POWER LINES AND OTHER STRUCTURES DURING THE INSTALLATION OF THE REPEATER TRANSMITTERS. CONTRACTOR SHALL NOTIFY THE POWER COMPANY PRIOR TO THE INSTALLATION OF THE REPEATER TRANSMITTERS.

15. ANY REQUIRED PERMIT OR DEVIATION FROM THE NORMAL SPECIFICATIONS FOR SPECIAL MEASURES, SUCH AS THE INSTALLATION OF A REPEATER TRANSMITTER AT THE LOCATION WHERE THE REPEATER WILL BE INSTALLED, MUST BE OBTAINED FROM THE APPROPRIATE AUTHORITY OR AGENCY PRIOR TO THE INSTALLATION OF THE REPEATER TRANSMITTERS.

16. CONTRACTOR SHALL MAINTAIN A CLEAN WORK SITE AND REMOVE ALL TRASH AND JUNK MATERIALS FROM THE AREA WHERE THE REPEATER TRANSMITTERS WILL BE INSTALLED.

17. CONTRACTOR SHALL MAINTAIN A CLEAN WORK SITE AND REMOVE ALL TRASH AND JUNK MATERIALS FROM THE AREA WHERE THE REPEATER TRANSMITTERS WILL BE INSTALLED.

ENGINEER'S NOTES FOR PAVING & COATING

1. THE CONTRACTOR SHALL APPLY PROTECTIVE COATINGS TO ALL EXPOSED SURFACES OF APPURTENANCES ACCORDING TO THE APPLICABLE SPECIFICATIONS AND ENSURE THAT ALL EXPOSED SURFACES ARE PROPERLY PROTECTED.

2. CONCRETE SHALL BE MIXED AND PLACED ACCORDING TO THE RECOMMENDED MIX AND PLACEMENT PROCEDURES. CONCRETE SHALL BE PLACED IN LAYERS NOT EXCEEDING 2 INCHES IN THICKNESS.

3. MORTAR SHALL BE MIXED AND PLACED ACCORDING TO THE RECOMMENDED MIX AND PLACEMENT PROCEDURES. MORTAR SHALL BE PLACED IN LAYERS NOT EXCEEDING 2 INCHES IN THICKNESS.

4. ALL COATINGS SHALL BE APPLIED IN CONFORMITY WITH THE RECOMMENDED COATING PROCEDURES. ALL COATINGS SHALL BE APPLIED IN LAYERS NOT EXCEEDING 2 INCHES IN THICKNESS.

5. ALL MEASURES SHALL BE TAKEN TO ENSURE THAT ALL EXPOSED SURFACES ARE PROPERLY PROTECTED.

ENGINEER'S NOTES FOR WATER MAINTENANCE

1. NEW WATER MAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE SPECIFICATIONS.

2. VALVES SHALL BE OF THE TYPE DESIGNED FOR THE PURPOSE AND SHALL BE CAPABLE OF WITHSTANDING THE PRESSURE AND DEFORMATION OF THE MATERIALS USED IN THE ConSTRUCTION. THE VALVES SHALL BE INSTALLED IN ACCORDANCE WITH THE SPECIFICATIONS.

3. CONTROL VALVES SHALL BE INSTALLED IN ACCORDANCE WITH THE SPECIFICATIONS.

4. ALL WATER MAINS SHALL BE TESTED FOR LEAKAGE Prior to ACCEPTANCE.

5. ALL WATER MAINS SHALL BE TESTED FOR LEAKAGE Prior to ACCEPTANCE.

6. INSTALLATION OF REPEATER TRANSMITTERS Shall BE PERMITTED.

7. INSTALLATION OF REPEATER TRANSMITTERS Shall BE PERMITTED.

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30. INSTALLATION OF REPEATER TRANSMITTERS Shall BE PERMITTED.
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GENERAL STRUCTURAL NOTES (GDN)

G1. SHEET:

NOTES ON THIS SHEET AND THE STANDARD STRUCTURAL DETAILS ARE GENERAL AND APPLY TO THE ENTIRE PROJECT WHETHER SPECIFICALLY CALLED OUT OR NOT. EXCEPT WHERE THERE ARE SPECIFIC INDICATIONS TO THE CONTRARY ON STRUCTURAL SHEETS, IF THERE ARE QUESTIONS, THEY SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER AND ANSWERED IN WRITING PRIOR TO CONSTRUCTION.

ACTUAL CONDITION:

RESERVOIR ROOF SYSTEM AND INTERIOR RESERVOIR COMPONENTS’ TYPE SIZE LOCATION CONDITION, INDICATED BY THESE PLANS, HAVE NOT BEEN VERIFIED. UPON CITY OF TEMPE DRAWING AND TAKING OFFLINE THE RESERVOIR, THE CITY’S HIRD CONSTRUCTION ENGINEER WILL VERIFY AND DOCUMENT NECESSARY RECORDS. EACH SPECIFIC COMPONENT REQUIRING REMOVAL, PREPARATION, AND REPLACEMENT WITH PROPER WELDED AND/OR BOLTED CONNECTIONS. THE CONTRACTOR SHALL OBTAIN THE CONSTRUCTION ENGINEER’S APPROVED WRITTEN EVALUATION AND DETAILED INSTRUCTIONS PRIOR TO BEGINNING WORK WITHIN RESERVOIR INTERIOR. THE CONSTRUCTION ENGINEER’S SEALED AND APPROVED SUPPLEMENTAL INSTRUCTIONS WILL BY REFERENCE BE MADE PART OF THE PROJECT PLANS AND SPECIFICATIONS.

G2. APPLICABLE SPECIFICATIONS AND CODES

A. PER AWWA D100.
B. PER JOINT LOCATIONS AND CONCRETE PLACEMENT SEQUENCE.
C. REFER TO OTHER DISCIPLINE DRAWINGS PRIOR TO CONSTRUCTION FOR SAFETY AND STRUCTURE STABILITY DURING CONSTRUCTION ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. STRUCTURES HAVE BEEN DESIGNED TO RESIST THE DESIGN LIVE LOADS ONLY AS A COMPLETED STRUCTURE. THE TANK SHELL SHALL BE SHORED AS REQUIRED TO RESIST CODE FORCES AT ALL TIMES DURING CONSTRUCTION. PROVIDE STIFFENERS AROUND ANY TEMPORARY ACCESS OPENING CUT INTO THE SHELL. AN EJECTION SCHEME WILL HAVE TO BE PROVIDED BY CONTRACTOR TO ENGINEER. IN ADDITION CONTRACTOR MAY HAVE ISSUES ACCESSING SITE DUE TO ROADWAY INCLINATION.

G8. CONFLICTS

IN CASE WHERE CONFLICTS OCCUR BETWEEN THE DRAWINGS AND SPECIFICATIONS, THE MOST STRINGENT REQUIREMENT SHALL APPLY FOR BID PURPOSES, UNLESS OTHERWISE RESOLVED IN WRITING DURING THE BID PHASE.

MATERIAL PROPERTIES

A. STEEL

1. ALL GAS STEEL WATER STORAGE TANKS:
   - DESIGN STRENGTHS:
     - Fy = 36 KSI
     - Fy = 46 KSI
     - Fy = 50 KSI
     - Fy = 60,000 PSI
   - MATERIAL THICKNESS IN ACCORDANCE WITH AISC AND AWWA SPECIFICATIONS.
   - ALL STAINLESS STEEL SHALL CONFORM TO THE REQUIREMENTS OF SPECIFICATION AWWA 705.

2. CONCRETE

   - MATERIAL COVER:
     - ALL CONCRETE SHALL BE PLACED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND OTHERWISE REQUIRED FOR THE FURNISHING OF A FUNCTIONALLY COMPLETE SYSTEM. PROVIDE 1/2" CHAMFER AT ALL EXPOSED EDGES UNLESS NOTED OTHERWISE. NOT ALL CHAMBERS MAY BE SHOWN ON DRAWINGS.
   - WELDING REQUIREMENTS:
     - PROVIDE WELDING OF STEEL WIRES OR BAR TO BEND BARS OR TORCHING TO BEND REINFORCING BARS SHALL BE ALLOWED.
   - CONTRACTOR SHALL SUBMIT A CONCRETE PLACEMENT PLAN IDENTIFYING JOINT TYPES, JOINT LOCATIONS AND CONCRETE PLACEMENT SEQUENCE.
   - DEFERRED SUBMITTALS ARE THOSE PORTIONS OF THE DESIGN WHICH ARE NOT SUBMITTED PRIOR TO INSTALLATION OF THE INDICATED STRUCTURAL ELEMENT, EQUIPMENT, OR ITS ANCHORAGE, THE CONTRACTOR SHALL SUBMIT THE REQUIRED CALCULATIONS AND SUPPORTING DATA AND DRAWINGS FOR REVIEW AND ACCEPTANCE BY THE ENGINEER. ADDITIONALLY, ACCEPTANCE INDICATED ON THE ENGINEER’S COMMENT FORM, ALONG WITH THE COMPLETED, FINAL SUBMITTAL. CONTRACTOR SHALL SUBMIT THE REQUIRED REINFORCEMENT TO MEET BUILDING PERMITTING REQUIREMENTS FOR DESIGNED SYSTEMS. PROVIDE 1/2" CHAMFER AT ALL EXPOSED EDGES UNLESS NOTED OTHERWISE. CONCRETE DEPOSITED AGAINST EARTH:
   - TOP OF STEEL REQUIRES TOP SURFACE OR FLANGE USE.
   - CONCRETE PLACEMENT PLAN IDENTIFYING JOINT TYPES, JOINT LOCATIONS AND CONCRETE PLACEMENT SEQUENCE.

G7. FIELD VERIFY

THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS OF EXISTING CONSTRUCTION AS REQUIRED TO COORDINATE NEW AND EXISTING CONSTRUCTION. CONTRACTOR SHALL SUBMIT REQUIRED CHANGES FOR APPROVAL.

CONSTRUCTION CONCRETE TESTING, PLACEMENT AND REPAIR SPECIAL INSPECTIONS ARE REQUIRED FOR THE FOLLOWING WORK:

- PIPE JOINTS
- CONCRETE PLACEMENT PLAN IDENTIFYING JOINT TYPES, JOINT LOCATIONS AND CONCRETE PLACEMENT SEQUENCE.

NOTE:

THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS OF EXISTING CONSTRUCTION AS REQUIRED TO COORDINATE NEW AND EXISTING CONSTRUCTION. CONTRACTOR SHALL SUBMIT REQUIRED CHANGES FOR APPROVAL.

CONSTRUCTION CONCRETE TESTING, PLACEMENT AND REPAIR SPECIAL INSPECTIONS ARE REQUIRED FOR THE FOLLOWING WORK:

- PIPE JOINTS
- CONCRETE PLACEMENT PLAN IDENTIFYING JOINT TYPES, JOINT LOCATIONS AND CONCRETE PLACEMENT SEQUENCE.
ROOF ACCESS HATCH

1. PROVIDE ROOF ACCESS HATCH AS SHOWN OR SIMILAR AS STATED IN THE SPECIFICATIONS.
2. ROOF CONTRACTOR TO PROVIDE FRAMEWORK TO ATTACH ROOF MANHOLE TO TANK ROOF.
3. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR FRAME AND HATCH.
4. MANUFACTURER TO PROVIDE ALL HARDWARE, ACCESSORIES, AND APPURTENANCES NECESSARY TO INSTALL HATCH AND APPURTENANCES.

ROOF ACCESS NOTES

STANDARD DETAILS 1

19

FRAME OPENING LENGTH

4'-0"

4'-0"

FRAME OPENING WIDTH

4'-0"

FRAME OPENING WIDTH

GASKET ALL AROUND COVER SLAM LATCH

NEOPRENE GASKET

INSIDE & OUTSIDE HANDLES W/ PADLOCK HASPS

COVER LINER

ALUMINUM COVER

ULTRA-SAFE ARM GUIDE BRACKET

ALUMINUM COVER

HOLD OPEN ARM

PINTLE HINGE

LIFTING MECHANISM

Critical Location

CONTRACTOR TO PROVIDE FLANGE ADAPTOR TO ACCOMMODATE ROOF ACCESS HATCH

1. PROVIDE DIELECTRIC ISOLATION BETWEEN ALUMINUM AND STEEL.
2. PROVIDE ROOF ACCESS HATCH AS SHOWN OR SIMILAR AS STATED IN THE SPECIFICATIONS.
3. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR FRAME AND HATCH.
4. MANUFACTURER TO PROVIDE ALL HARDWARE, ACCESSORIES, AND APPURTENANCES NECESSARY TO INSTALL HATCH AND APPURTENANCES.

INTERIOR LADDER

INSTALL LADDER SAF-T-CLIMB SYSTEM ON LADDER (SEE INSIDE LADDER NOTES)

INSIDE LADDER NOTES

1. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR STAINLESS STEEL LADDER IN COMPLIANCE WITH OSHA CLIMBING SAFETY REGULATIONS.
2. INSIDE LADDER SHALL BE LOCATED AT THE ROOF ACCESS HATCH NEAR THE OUTSIDE LADDER.
3. MANUFACTURER TO PROVIDE ALL HARDWARE, ACCESSORIES, AND APPURTENANCES NECESSARY TO INSTALL SAFETY CLIMB SYSTEM ON LADDER.
4. INSTALL LADDER WITH FALL PREVENTION SYSTEM BY NORTH SAFETY PRODUCTS, MILLER SAF-T-CLIMB LADDER SYSTEM OR APPROVED EQUAL.
5. INSTALL SAFETY CLIMB DEVICE PER MANUFACTURER RECOMMENDATIONS.

1'-0" O.C. RUNG SPACING

10'-0" MAXIMUM SPACING (TYP)

1'-0"

38" MINIMUM CURB HEIGHT

CONTRACTOR TO COORDINATE CURB HEIGHT REQUIREMENTS WITH ACTUAL HATCH PROVIDED.

4" MIN CURB HEIGHT

2" MIN OVERLAP

SCALE: NTS

1. PROVIDE ROOF ACCESS HATCH AS SHOWN OR SIMILAR AS STATED IN THE SPECIFICATIONS.
2. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR FRAME AND HATCH.
3. CONTRACTOR TO PROVIDE FLANGE ADAPTOR TO ACCOMMODATE ROOF ACCESS HATCH.
4. MANUFACTURER TO PROVIDE ALL HARDWARE, ACCESSORIES, AND APPURTENANCES NECESSARY TO INSTALL HATCH AND APPURTENANCES.
OUTSIDE LADDER AND SAFETY CAGE NOTES
1. LADDER AND SAFETY CAGE SHALL CONFORM TO OSHA REQUIREMENTS.
2. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR STAINLESS STEEL LADDER, SAFETY CAGE AND APPURTENANCES.
3. MANUFACTURER TO PROVIDE ALL HARDWARE, ACCESSORIES, AND APPURTENANCES NECESSARY TO INSTALL LADDER AND SAFETY CAGE.
4. LADDER, SAFETY CAGE AND ACCESSORIES SHALL BE PAINTED TO MATCH RESERVOIR COLOR.

SIDE STRINGERS
2 @ 3/8" x 2" x 32'-5 1/2""

RUNGS
30 @ 3/4" RB x 15.7/8"

BARREL
2 @ 10 GA x 47.5" x 95.318" (ROLL TO 30" O.D.)

SMALL HOOPS
5 @ 1/4" x 2" x 15" (ROLL TO 36" O.D.)

HOOP STRINGERS
7 @ 1/4" x 2" x 17'-10"

STANDOFFS
6 @ 3/8" x 2" x 5"

BARREL EXTENSIONS
2 @ 1/4" x 9" x 52"

1 @ 5/16" x SKETCH
NOTES FOR ELECTRICAL SUPPORTS

1. CONTRACTOR SHALL COORDINATE WITH ELECTRICAL ENGINEER THE USE OF THE UNISTRUT OR CHANNEL SUPPORT AND THE CONFIGURATION FOR THE NUMBER OF CONDUITS TO SUPPORT. REFER TO ELECTRICAL SHEETS.

A. WELD 1-1/8" x 1-1/8" x 4' GALVANIZED STRUT HORIZONTALLY TO TANK AT 1.5' AND 5' FROM ABOVE FINISHED GRADE.

B. WELD 1-1/8" x 1-1/8" x 4' GALVANIZED STRUT HORIZONTALLY TO TANK AT 1.5', 8.5', 15.5' AND 29.5' ABOVE FINISHED GRADE.

C. WELD 4" GALVANIZED STEEL "C" CHANNEL 4" LONG VERTICALLY TO TANK AT 3' AND 12' ABOVE FINISHED GRADE VERTICALLY IN LINE WITH EACH OTHER.

D. WELD 1-1/8" x 1-1/8" x 4' GALVANIZED STRUT HORIZONTALLY TO TANK AT 1.5', 5', AND 10' FROM ABOVE FINISHED GRADE VERTICALLY IN LINE WITH THE WELDED CHANNELS.

LIQUID LEVEL INDICATORS

1. MANUFACTURER TO PROVIDE ALL HARDWARE, ACCESSORIES, AND APPURtenANCES NECESSARY TO INSTALL LIQUID LEVEL INDICATOR.

2. MANUFACTURERS VAREC, SHAND & JURS, TANK PRODUCTS OR APPROVED EQUAL. PROVIDE SIMILAR SYSTEM AND TO BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

3. PENETRATIONS IN THE TANK ROOF FOR THE LEVEL INDICATORS SHALL BE BETWEEN RAFTERS, FOR LOCATION SEE HORIZONTAL CONTROL POINT TABLE.
PIPE PENETRATIONS DETAIL

PIPE PENETRATION TABLE

<table>
<thead>
<tr>
<th>PIPE PENETRATION DIAMETER</th>
<th>MINIMUM A</th>
<th>MINIMUM D</th>
<th>E</th>
<th>MINIMUM F</th>
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<td>1'-7&quot;</td>
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<td>0'-8 13/16&quot;</td>
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<td>2'-1&quot;</td>
<td>4'-2&quot;</td>
<td></td>
<td>2'-0 3/16&quot;</td>
</tr>
</tbody>
</table>

NOTES
1. FOR PIPE DIAMETERS UNDER 4 INCHES, NO SPECIAL DETAILS ARE REQUIRED FOR 1/2" BACKING PLATE INSTALLATION.

12" INLET PIPE PENETRATION

FLOOR PLATE REINFORCEMENT DETAIL

FLOOR PLATE NOTES
1. CONTRACTOR SHALL REINFORCE RESERVOIR FLOOR PLATE AS REQUIRED. MINIMUM FLOOR THICKNESS IS 1 1/4".
2. PRIOR TO COATING THE TANK, IT SHALL BE TESTED FOR WATER TIGHTNESS BY VACUUM TESTING PER AWWA D100.
3. AREA UNDER NEW FLOOR PLATE SHALL BE BLASTED AS SPECIFIED.
4. NEW FLOOR PLATE WHERE REQUIRED SHALL BE PATCH AS SHOWN IN DETAIL. SEE FLOOR PLATE REINFORCEMENT PLAN FOR PLATE DIMENSIONS.

* FOR ANGULAR DEGREE OF INLET ADJUST RE-PAD ACCORDINGLY
** PIPE SUPPORT REQUIRED. DESIGN AND INSTALLATION BY CONTRACTOR. WORK WITH DETAIL A SHEET 10 PIPING PLAN AND SECTIONS

PLATE PATCH DETAIL

1. A REPAIR PLATE IS REQUIRED FOR AN H DIMENSION LARGER THAN 4 INCHES.
2. AT THE HOLE IN EXISTING PLATE TO BE PATCHED, SMOOTH ROUGH EDGES AND STRIPE COAT PRIOR TO COATING PER SPECS.
EXISTING ROOF TO REMAIN

AFTER Sand BLASTING CONTRACTOR SHAll REMOVE SELECTive ROOF STRUCTURE SUPPORT MEMBERS AS DETERMINED IN FIELD BY ENGINEER. REPLACE DAMAGE RAFTERS AND SUPPORTS IN KIND.

EXISTING CEILING PANELS OF ROOF TO REMAIN

SELECTive MEMBERS OF ROOF SUPPORT REQUIRE REPLACEMENT

SEnSE ExIsTIng COLUmN OF ROOF SYSTEM TO REMAIN

108'-0" INSIDE TANK DIAMETER

EXISTING RESERVOIR

EXISTING RESERVOIR TO REMAIN

SEE DETAIL

REMOVAL NOTES

• FOR ADDITIONAL REMOVAL ITEMS ON TANK, SEE CIVIL DRAWINGS. TANK CONTRACTOR SHALL COORDINATE WITH ALL OTHER REMOVALS AND WORK AREA.
• EXISTING ROOF CEILING PANELS ARE NOT SHOWING ANY SIGNS OF DETERIORATION.
• CONTRACTOR SHALL SAND BLAST MEMBERS OF THE ROOF CEILING SUCH AS THE RAFTERS AND STRUCTURAL SUPPORT FOR ENGINEER OF RECORD TO DETERMINE WHICH MEMBERS REQUIRE REPLACEMENT.
• PREVIOUS REPORTS HAVE IDENTIFIED THAT SOME OF THE ROOF RAFTERS, SUPPORT CLIP ANGLES, ARE SHOWING DETERIORATION DUE TO RUST AND REPLACEMENT OF SELECTIVE MEMBERS IS REQUIRED.
• ONCE REQUIRED MEMBERS IDENTIFIED FOR REPLACEMENT ARE IDENTIFIED, CONTRACTOR SHALL REMOVE INDIVIDUAL SELECT MEMBERS AND SUPPORTS AND REPLACE THEM IN KIND. SPECIAL SUPPORTS MAY BE REQUIRED ON CEILING ROOF PANELS DEPENDING ON THE SEQUENCE OR THE NUMBER OF MEMBERS CONTRACTOR DECIDES TO REPLACE AT THE SAME TIME.
• TANK CONTRACTOR SHALL REPLACE THE STRUCTURAL MEMBERS SUPPORTING THE ROOF CEILING PANELS WITHOUT CAUSING ANY DAMAGE TO ENTIRE EXISTING RESERVOIR AND UTILITIES IN THE AREA.
• CONTRACTOR SHALL VISIT THE AREA TO RECOGNIZE EASE OF ACCESS TO JOB SITE. RESTRICTIONS ARE DUE TO:
  1. ACCESSIBILITY OF LARGER VEHICLES IS INADEQUATE DUE TO WIDTH OF ROAD AND STEEP ROADWAY PROFILE.
  2. AREA ADJACENT TO RESERVOIR IS RESTRICTED.
• IT IS THE RESPONSIBILITY OF CONTRACTOR TO INVESTIGATE:
  1. SIZE OF CRANE THAT COULD ACCESS THE AREA.
  2. IF STRUCTURAL MEMBERS ARE STRONG ENOUGH TO SUSTAIN THE LOADS DURING REPLACEMENT OF DETERIORATED MEMBERS.
• STRUCTURAL MEMBERS SHOW RUST AND STRUCTURAL CAPACITY OF SECTION HAS BEEN REDUCED.
• CONTRACTOR PRIOR TO COMMENCING THE WORK, SHALL SUBMIT TO THE ENGINEER OF RECORD FOR APPROVAL, THE METHOD OF OPERATION FOR REMOVING AND DISPOSING OF EXISTING STRUCTURAL MEMBERS.
1. CONTRACTOR SHALL CONFIRM THAT CENTER COLUMN IS NOT WELDED TO FLOOR AND PROVIDE ENGINEER WITH DOCUMENTATION OF EXISTING FLOOR ATTACHMENT CONDITION.
2. SIZES AND DIMENSIONS OF RAFTERS AND SUPPORT SYSTEM WILL ALSO BE DETERMINED ONCE TANK IS Eempted.

NOTES

1. TYPICAL TANK CONNECTION DETAIL IS SHOWN. CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS PRIOR TO CONSTRUCTION.
2. CONTRACTOR CAN CHANGE THE CONCEPT FOR THE REPLACED IN KIND RAFTER AND SUPPORT MEMBERS AND CONNECTION. CONTRACTOR SHALL PROVIDE STRUCTURAL CALCULATIONS FOR ALL CHANGES OF MEMBERS, MEMBER SUPPORTS AND CONNECTIONS PER SPECIFICATIONS. OTHER SIMILAR DETAILS ARE ALSO ACCEPTABLE. FABRICATOR TO SUBMIT ALTERNATIVE DETAILS.
3. GRIND AND SMOOTH ANY SHARP EDGES.

EXISTING ROOF CEILING CONNECTION TO NEW RAFTERS

1. ROOF VENTS SHALL BE A 24" AND A 12" VENT PIPE DIAMETER FOR A 24-INCH AND 12-INCH ROOF VENT RESPECTIVELY, TYPE OMEGA VENT SECURITY SHROUD OR APPROVED EQUAL.
2. 24-INCH ROOF VENT TO BE PLACED AT TANK CENTER.
3. CONTRACTOR TO VERIFY LOCATION OF ROOF VENT WITH RAFTER AND OTHER STRUCTURAL MEMBERS.
4. FOR ADDITIONAL INFORMATION SEE SPECIAL PROVISIONS.

NEW RAFTER CLIP REPLACE IN KIND

REPLACE IN KIND WITH STAINLESS STEEL BOLTS AND NUTS. CHANNEL CONNECTION SHOWN, SIMILAR W SHAPE CONNECTION (5 BOLTS CONNECTION)
1. NEW HANDRAIL SHALL MEET ALL OSHA AND CITY REQUIREMENTS.

2. TANK SHALL HAVE A FULL HANDRAIL AROUND THE PERIMETER. CONTRACTOR TO COORDINATE WITH LOCATION OF EXISTING LADDER CAGE. HANDRAIL TO BE SURE HANDRAIL IS CONTINUOUS AND NO GAPS ARE LEFT OPEN AROUND THE LADDER CAGE.

3. CONTRACTOR TO VERIFY LOCATION OF ROOF VENT WITH RAFTER AND OTHER STRUCTURAL MEMBERS.

4. FOR ADDITIONAL INFORMATION SEE SPECIAL PROVISIONS.